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Address

THE ETHICS OF SURGERY.*

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The evolution of surgery during the past century has kept pace with the development of science along other lines, wonderful as this has been, and we have reason for just pride in the contributions made by the surgeons of our own land during this period. If, however, none other had been made than the discovery of the use of ether in producing anesthesia, America would still be entitled to the highest mark of honor. No other discovery yet made in surgery has been so great a boon to suffering humanity. Every young physician should avail himself of the opportunity, when in Boston, to visit the Massachusetts General Hospital and ask to be conducted to the little amphitheater at the top of the old building where the first operation was performed under ether administered by Morton. This room has been left practically unchanged, and there may be seen the original apparatus used in its administration. To me this seems a sacred place.

The advent of antiseptic and aseptic measures marked an era but little less important than that of the introduction of anesthesia. Those of us who began our professional studies a quarter of a century ago, look back on some interesting events. How little, indeed, does the graduate of to-day know of the uncertain and often direful results of the surgery of preantiseptic days. The result of a given operation was unknown and unknowable. Whether to expect healing with the formation of so-called laudable pus, or whether erysipelas, pyemia or gangrene would follow, could not be determined. All this is changed, and these terrible wound complications of former days are merely facts of historic interest. History bears out the oft repeated statement that there has been more progress in surgery in the twenty-five years following the advent of antisepsis than was made in the preceding twenty-five centuries.

With the establishment of a perfected aseptic technic, it seemed that the acme of surgical effort had been reached; and yet in the light of the discoveries coming to us daily, we can prophesy greater achievements for the future than are yet dreamed of. The border-line cases of yesterday become settled surgical problems to-day; and the border-line cases of to-day will, many of them, by modern aggressive methods, be settled in the same manner to-morrow. It would, indeed, be rash to attempt to place a limit to the future of surgery.

We have reason to be thankful that it was our fortune to come on the stage of activity in this age of wonderful progress. Our opportunities have been great, but we should not be unmindful of the magnitude of our heritage. Individually, most of us can hope to do but little toward paying this great debt; collectively, as organized surgical associations like this, it seems to me we may do much by helping to mold the surgeon of the future. We can lend our aid toward the elevation of the standard of the surgeon's qualifications.

The ambitious medical student does not usually get far into his college work before he aspires to become a surgeon. He sees in the surgical clinics more definite and striking results than are discernible in other branches. Without being able to judge of his own relative fitness or whether he possesses the special aptitude so essential to success, he decides to become a surgeon. There will always be room for the young surgeon, who, fitted by nature for the work, takes the time and opportunity to properly prepare himself. There is more good surgery being done to-day than ever before, and there are more good surgeons being educated to do the work. If, however, the surgeon of the future is to hold the high and honorable position our leaders have held in the past, there must be some standard of qualification established that shall protect the people against incompetency and dishonesty in surgeons.

That there is much that passes under the name of surgery being done by ill trained, incompetent men, will not be denied. What standard, then, should be established, and what requirement should be made before one should be permitted to do surgery? In his address as chairman of the Section on Surgery and Anatomy of the American Medical Association at the Portland (1905) meeting, Dr. Maurice H. Richardson deals with this subject in such a forceful, clear-cut way, that I take the liberty to quote him[1] at some length:

> The burden of the following remarks is that those only should practice surgery who by education in the laboratory, in the dissecting room, by the bedside, and at the operating table, are qualified, first, to make reasonably correct deductions from subjective and objective signs; secondly, to give sound advice for or against operations; thirdly, to perform operations skilfully and quickly, and, fourthly, to conduct wisely the after-treatment.
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> The task before me is a serious criticism of what is going on in every community. I do not single out any community or any man. There is in my mind no doubt whatever that surgery is being practiced by those who are incompetent to practice it—by those whose education is imperfect, who lack natural aptitude, whose environment is such that they never can gain that personal experience which alone will really fit them for what surgery means to-day. They are unable to make correct deductions from histories; to predict probable events; to perform operations skilfully, or to manage after-treatment.
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> All surgeons are liable to error, not only in diagnosis, but in the performance of operations based on the diagnosis. Such errors must always be expected and included in the contingencies of the practice of medicine and surgery. Doubtless many of my hearers can recall cases of their own in which

* President's Address, delivered before the Western Surgical and Gynecological Association, St. Louis, Dec. 30, 1907

1. THE JOURNAL A. M. A., Oct. 7, 1905.

useless—or worse than useless—operations have been performed. If, however, serious operations are in the hands of men of large experience, such errors will be reduced to a minimum.

Many physicians send patients for diagnosis and opinion as to the advisability of operation without telling the consultant that they themselves are to perform the operation. The diagnosis is made and the operation perhaps recommended, when it appears that the operation is to be in incompetent hands. His advice should be conditional that it be carried out only by the competent. Many operations, like the removal of the vermiform appendix in the period of health, the removal of fibroids which are not seriously offending, the removal of gall-stones that are not causing symptoms, are operations of choice rather than of necessity; they are operations which should never be advised unless they are to be performed by men of the greatest skill. Furthermore, many emergency operations, such as the removal of an inflamed appendix and other operations for lesions which are not necessarily fatal—should be forbidden and the patient left to the chances of spontaneous recovery, if the operation proposed is to be performed by an incompetent.

And is not the surgeon, appreciating his own unfitness in spite of years of devotion, in the position to condemn those who lightly take up such burdens without preparation and too often without conscience?

In view of these facts, who should perform surgery? How shall the surgeon be best fitted for these grave duties? As a matter of right and wrong, who shall, in the opinion of the medical profession, advise and perform these responsible acts and who shall not? Surgical operations should be performed only by those who are educated for that special purpose.

I have no hesitation in saying that the proper fitting of a man for surgical practice requires a much longer experience as a student and assistant than the most exacting schools demand. A man should serve four, five or six years as assistant to an active surgeon. During this period of preparation, as it were, as much time as possible should be given to observing the work of the masters of surgery throughout the world.

While Dr. Richardson's ideal may seem almost utopian, there being so wide a difference between the standard he would erect and the one generally established, we must all agree that however impossible of attainment under present conditions, such an ideal is none too high and its future realization not too much to hope for.

While there is being done enough poor surgery that is honest and well intended, there is much being done that is useless, conscienceless and done for purely commercial ends. This is truly a disagreeable and painful topic and one that I would gladly pass by, did I not feel that its importance demands some word of condemnation coming through such representative surgical organizations as this.

The spirit of graft that has pervaded our ranks, especially here in the West, is doing much to lower the standard and undermine the morals and ethics of the profession. When fee-splitting and the paying of commissions for surgical work began to be heard of something like a decade ago, it seemed so palpably dishonest and wrong that it was believed that it would soon die out or be at least confined to the few in whom the inherited commercial instinct was so strong that they could not get away from it. But it did not die; on the other hand, it has grown and flourished.

In looking for an explanation for the existence of this evil, I think several factors must be taken into account, among them being certain changes in our social and economic conditions. This is an age of commercialism. We are known to the world as a nation of "dollar chasers," where nearly everything that should contribute to right living is sacrificed to the Moloch of money. The mad rush for wealth which has characterized the business world, has, in a way, induced some medical men, whether rightfully or wrongfully, to adopt the same measures in self-protection. The patient or his friends too often insist on measuring the value of our services with a commercial yard-stick, the fee to be paid being the chief consideration. In this way the public must come in for its share of responsibility for existing conditions. So long as there are people who care so little who operates on them, just so long will there be cheap surgeons, cheap in every respect, to supply the demand. The demand for better physicians and surgeons must come in part from those who employ their services.

Another source of the graft evil is the existence of low grade, irregular and stock-company medical schools. In many of these schools the entrance requirements are not in evidence outside of their catalogues. With no standard of character or ethics, these schools turn out men who have gotten the little learning they possess in the very atmosphere of graft. The existence of these schools seems less excusable when we consider that our leading medical colleges rank with the best in the world and are ample for the needs of all who should enter the profession. Their constant aim is to still further elevate the standard and to admit as students, only those who give unmistakable evidence of being morally and intellectually fit to become members of the profession.

Enough men of character, however, are entering the field through these better schools to insure the upholding of those lofty ideals that have characterized the profession in the past and which are essential to our continued progress. I think, therefore, we may take a hopeful view of the future. The demand for better prepared physicians will eventually close many of the avenues that are now open to students, greatly to the benefit of all. With the curtailing of the number of students and a less fierce competition which this will bring, there will be less temptation, less necessity, if you will, on the part of the general practitioner to ask for a division of fees. He will come to see that honest dealing on his part with the patient requiring special skill, will, in the long run, be the best policy. He will make a just, open charge for the services he has rendered and not attempt to collect a surreptitious fee through a dishonest surgeon for services he has not rendered and could not render. Then, too, there will be less inducement and less opportunity for incompetent and conscienceless men to disgrace the art of surgery.

The public mind is becoming especially active just at this time in combating graft in all forms, and is ready to aid in its destruction. The intelligent portion of the laity is becoming alive to the patent medicine evil. It is only a question of time when the people will demand that the secular papers which go into our homes shall not contain the vile, disgusting and suggestive quack advertisements that are found to-day. A campaign of reform is being instituted against dishonest politicians, financiers, railroad and insurance magnates, showing that their methods will be no longer tolerated. The moral standards set for professional men and men in public life are going to be higher in the future, and with the lime light of public opinion turned on the medical and surgical grafter, the evil will cease to exist. Hand in hand with this reform, let us hope that there will come to be established a legal and moral standard of qualification for those who assume to do surgery.

I feel sure that it is the wish of every member of this association to do everything possible to hasten the coming of this day and to aid in the uplifting of the art of surgery. Our individual effort in this direction must lie largely through the influence we exert over those who seek our advice before beginning the study of medicine, and over those who, having entered the work, are to follow in our immediate footsteps. To the young man who seeks our counsel as to the advisability of commencing the study of medicine, it is our duty to make a plain statement of what would be expected of him, of the cost in time and money and an estimate of what he might reasonably expect as a reward for a life devoted to ceaseless study, toil and responsibility. If, from our knowledge of the character, attainments and qualifications of the young man we feel that at best he could make but a modicum of success in the work, we should endeavor to divert his ambition into some other channel.

We should advise the "expectant surgeon" in his preparation to follow as nearly as possible the line of study suggested by Richardson. Then I would add the advice of Senn, viz.: "To do general practice for several years, return to laboratory work and surgical anatomy, attend the clinics of different operators and never cease to be a physician. If this advice is followed there will be less unnecessary operating done in the future, than has been the case in the past." The young man who enters special work without having had experience as a general practitioner, is seriously handicapped. In this age, when we have so frequently to deal with the so-called border-line cases, it is especially well to never cease being a physician.

We would next have the young man assure himself that he is the possessor of a well developed, healthy, working "surgical conscience." No matter how well qualified he may be, his enthusiasm, in the earlier years of his work, will lead him to do operations that he would refrain from in later life. This will be especially true of malignant disease. He knows that early and thorough radical measures alone hold out hope, and only by repeated unsuccessful efforts will he learn to temper his ambition by the judgment that comes of experience. Pirogoff, the noted surgeon, suffered from a malignant growth. Billroth refused to operate or advise operation. In writing of the case to another surgeon friend, he said: "I am not the bold operator whom you knew years ago in Zurich. Before deciding on the necessity of an operation, I always propose to myself this question: Would you permit such an operation as you intend performing on your patient, to be done on yourself? Years and experience bring in their train a certain degree of hesitancy." This coming from one, who, in his day was the most brilliant operator in the world, should be remembered by every surgeon, young and old.

The surgeon should be thoroughly trained in his aseptic technic early in his career so that it may become with him automatic. It is painful to see a man of forty or over attempt to clean up to assist at a surgical operation, unless his training began long years before. When such an emergency arrives, it is safest to relegate him to the retractors and keep him there, however much in the way.

This association has just reason to be proud of what it has accomplished. Its influence for good can not but be helpful and elevating. No better surgery is done in the world than in the geographical area from which the membership of this association is drawn. The history of surgery could not be written without enrolling the names of some of our honored members. Let us exercise due care in extending fellowship and lend our every effort to elevate the standard of our cherished art.

Original Articles

THE TREATMENT OF IRITIS.*

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It would seem that very little remains to be said concerning the treatment of a disease so long recognized and so frequently encountered as iritis, but for those reasons the discussion should be sufficiently interesting and profitable to justify our Chairman in providing such a paper.

The varieties of iritis can be dismissed in a few words. The most useful classification is that based on the cause, which will be duly considered in this paper. As regards the local clinical manifestations, we may regard all iritis, from the point of view of treatment, as forms of plastic iritis, differing only in degree.

The object of the treatment of iritis may be stated, in the words of Brailey and Stevenson, as threefold:

1, To dilate the pupil; 2, to relieve pain; 3, treat any constitutional condition that may be present as a cause, as well as to attend to the patient's general bodily welfare and secretions.

I. DILATION OF THE PUPIL.

The object of this procedure is, as we all know, (*a*) to prevent the formation of adhesions, which may so lessen the size of the pupil as to interfere with vision, or to interfere with the circulation of the aqueous between the anterior and posterior chambers; (*b*) to diminish the volume of the iris, and thus to squeeze out the blood from it; (*c*) the drug which paralyzes the iris muscle affects the ciliary muscle similarly and puts both at rest; (*d*) it also acts as a local sedative.

To dilate the pupil we must use a mydriatic drug. We must then consider (1) what drug, (2) in what strength, and (3) how and how often should it be applied.

There are not many drugs from which to choose, and if we omit cocain and homatropin as being of too feeble mydriatic power to be considered in this connection we have three left, namely: (*a*) Atropin, (*b*) scopolamin and hyoscin (which are possibly identical), and (*c*) hyoscyamin, daturin and duboisin (which are identical).

Without going at all into a discussion of things so often discussed, it suffices to say that of these drugs we unanimously choose atropin as the most efficient. Nor is it necessary to review the well-known questions of the chemistry of the mydriatic drugs, so fully elucidated long ago by Risley and others.

What strength solution shall we employ? The standard solution of four grains to the ounce may require modification either way. In patients presenting themselves for treatment with adhesions already formed, it may be necessary to increase the strength to eight grains to the ounce for a few instillations in order forcibly to break up the adhesions. On the other hand, in children, and in those susceptible to the drug, a weaker solution may be expedient. Under some circumstances a small solid crystal of atropin may be introduced into the eye, as will be mentioned later.

*Read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

How and how often should we use the solution? This depends, too, on circumstances. In general four instillations in twenty-four hours, with the patient at rest, and under favorable surroundings, will suffice to keep the pupil dilated, and this is the index by which we gauge our therapeutics. When the patient is first seen it is well for the surgeon to instil the drops until the pupil is dilated, but we frequently see that very little dilation is procured in one hour, while a continuation of the drops for twenty-four hours may break all the adhesions and give a round pupil. Even if this has not happened by the end of the twenty-four hours, it does not mean that the adhesions are permanent, for continued use of the drug may result in the continued rupture of synechia for as long as four or five days. When full dilation is secured, the frequency of the instillation should be reduced until the minimum dose which will maintain the mydriasis is ascertained. Briefly, this should be continued until the eye is free from redness.

If the drug fails to dilate the pupil fully, several expedients may be used. It is recommended, as has been mentioned, to place a small pure crystal of atropin in the lower cul-de-sac, and this, by its vigorous action, will often rupture adhesions which solutions of the drug will not affect. I have had no personal experience with this plan, since the danger of introducing so much of so powerful a drug into the circulation has seemed to me too great a risk. I hope that some of the members of the Section will speak of their experience on this point. Another expedient to increase the effect of atropin in dilating the pupil is to use it in combination with cocain. I prefer not to mix the solutions, but by keeping them separate either can be used more or less energetically without affecting the method of using the other. The drop of cocain should precede the atropin to secure the best effect. The cocain lessens pain and increases the contraction of the blood vessels of the iris directly and by its action as a mydriatic.

Of the adrenal preparations great things were expected in ophthalmic therapeutics, but it is doubtful if any good is to be attained by their use except in ophthalmic surgery. Indeed, some writers have argued that the blood is driven from the superficial vessels by their action and the deeper structures are more greatly engorged, so that an iritis would be aggravated rather than relieved by such a drug. While not admitting the correctness of this reasoning, we can at least agree that no apparent benefit is gained by the use of these preparations. Paracentesis of the cornea may be mentioned as a measure which would increase the sensibility of the eye to a mydriatic, although a measure rarely, if ever, used for that purpose. Dionin is a comparatively recent addition to our resources in ophthalmology, and one of its many reputed virtues is to enhance the action of mydriatics by stimulating the lymph circulation. It seems that considerable observation would be necessary to settle this point, though the literature of dionin would suggest abundant observation of its action. I am not satisfied that dionin is a certain and unfailing agent for this purpose, or, if certain, that it is superior to cocain. The application of heat, either dry or moist, by stimulating the circulatory activity of the eye, also aids in securing and maintaining mydriasis. Dry heat may be applied almost continuously, since with the means at our command the heat is usually not very severe, while moist heat is best applied at stated intervals for ten or twenty minutes at a time. On the whole, moist heat, being more energetic, is preferable; it is applied with a towel, gauze or other cloth wrung out of hot water, after the manner of barbers. The local abstraction of blood is of great value as an aid to the action of mydriatics. This will be spoken of again later.

Two simple measures are of great value as an adjuvant to mydriatics, and, in fact, to all our therapeutics in iritis, namely, proper protection of the eye from light, and rest. Not only is rest of the eye necessary, but rest in bed is a part of the treatment whose value must have been impressed on every one. I feel satisfied that every patient with iritis would be better off in bed till convalescence is established.

We formerly heard a good deal about "atropin catarrh," but it seems to be pretty well established now that this form of conjunctival inflammation is simply an infection from dirty solutions and dirty droppers. If the solutions are made with a saturated solution of boric acid, or other unirritating antiseptic, as the menstruum, and proper care of the droppers enforced, this condition will rarely be seen. Before leaving the subject of the drops, we should be reminded of the virtue of warm solutions for this purpose. A little point which I saw from the pen of Dr. Casey Wood has been worth much to me, namely: First draw some hot water into the dropper, then expel it, and draw up the solution of the drug. This insures a clean dropper and a warm solution, and correspondingly less irritation to the eye.

II. TO RELIEVE THE PAIN.

The state of the pupil and the comfort of the patient together guide us in forming an idea of how satisfactory is the progress of a case of iritis. The use of the mydriatic, cocain, dionin, rest, protection from light, and the application of heat or cold, all contribute to the patient's comfort and freedom from pain, and while pain persists improvement is not imminent. Special consideration should be given to one or two of these measures. Dionin is much used as an ocular analgesic. In many cases the instillation of a 5 per cent. or 10 per cent. solution will relieve ocular pain for several hours, and it may be repeated as often as necessary. In my experience, it frequently fails to produce this happy effect, while moist heat is much more reliable for the purpose, applied as above stated. Continuous dry heat of lesser degree is often soothing. Cold applications seem to be of the most value in traumatic cases, with threatened or feared suppuration. In such cases the application should be continuous as long as it is needed at all. It occasionally happens that a patient with ordinary plastic iritis prefers the effect of cold to that of heat, in which case cold may be used continuously or intermittently.

We must often give anodynes internally. The various preparations of opium are most effective, but unpleasant by reason of the systemic disturbances to which they give rise. A mixture of antipyrin and salicylate of soda in moderate doses is a very efficient anodyne, five grains of the former and seven and one-half of the latter in simple elixir being a convenient form and dosage.

Counter irritants have a place in the treatment of iritis. A blister behind the ear, or one on the brow or temple, is of some value, but this measure is rarely used, as the same effect can be better attained, and, on the whole, with less disturbance to the patient, with leeches. Except in hospitals, artificial leeches are apt to get out of order from lack of use; hence the natural ones are preferable, and their value is very great. Four to the temple will contribute greatly to the relief of pain and to the dilatation of the pupil. McKenzie long ago men-

tioned the favorable effect of general blood-letting on the action of mydriatics, and the local abstraction of blood is even more gratifying, though probably not so much used as its merit deserves that it should be.

Sometimes pain in the course of an attack of iritis is due to an increase of tension, or the increased tension may be present without any special increase of pain. Special means for the relief of this symptom are hot applications, a myotic drug and paracentesis. Hot applications may so stimulate the circulation of the eye that the excessive fluid will be disposed of and the symptom subside, but most often this does not occur. If the tendency to the formation of adhesions is not marked, we may use a myotic, alternating with the mydriatic, or at least dilating the pupil once in the twenty-four hours. If this does not control the situation, paracentesis may be done, and my preference would be to do this early and repeat it. No special precautions are necessary in its performance under these circumstances, and the relief is prompt. The mydriatic is continued and the operation repeated if necessary.

III. THE CONSTITUTIONAL TREATMENT.

Under this head we should include not only the treatment of any constitutional condition that may be a cause, but any disturbance of function, nutrition or metabolism that could in any way retard the cure of a local condition, or interfere with the action of remedies. The bowels, skin and kidneys in particular should be kept sufficiently under watch to insure the proper performance of their functions, without which no treatment can accomplish its greatest good.

Every one who writes on iritis repeats the statement that 50 per cent. of cases are due to syphilis and one-half of the remainder to rheumatism. When the therapeutics of the latter is as certain as the therapeutics of the former, the treatment of iritis in the rheumatic may be more satisfactory, though we should hasten to add our thanks at the relative amenability of the iritis as compared to the joint manifestations.

It is a question as to how far such a paper as this should attempt to deal with the treatment of possible causes of iritis. A little latitude in this direction would result in the production of a compend on the "Practice of Medicine." Only a few matters need be considered and certain well-known facts may be hurried over. The fact that the iritis of syphilis is usually an early secondary manifestation would give us the hint as to mercury, even if the observation of the effect of mercury on the iritis itself did not lead us to that conclusion. In iritis in any stage of syphilis, mercury gives by far the best results and is best given by inunction. The more marked the plastic features of the inflammation the more urgent is the need of mercury and the more striking are its effects. It may be said here, and will be elaborated later on, that it is by no means in syphilitic iritis alone that mercury is of value, but in plastic iritis of whatever origin. It is thought that the energetic treatment of primary syphilis will prevent iritis, as well as the other secondary manifestations.

The subconjunctival injection of mercury was ardently advocated by Darier, who reported especially good results from it in specific diseases of the eye. It seems settled that the action is not specific or antibacterial, but that the good results are due largely to the increased circulatory activity, and similar results are obtained, with much less pain, by normal salt solution. The mercurial preparation is a 1 per cent. solution of either the bichlorid or cyanid, of which from one to three minims is given at a dose.

In an iritis which is manifestly or presumably of rheumatic origin, the indications for internal treatment are less clear in proportion as the pathology and therapeutics of rheumatism and the allied states are not exact. The salicylates, alkalies, hot baths, regulation of diet, confinement to bed to secure the advantages of the equable temperature, in addition to the rest, all have their place. Frank[1] has had favorable results in rheumatic iritis from the local application of an absorbable salicylic acid compound, called mesotan. This is mixed with equal parts of cotton seed or olive oil and rubbed into the skin around the eyes. It is probably in connection with rheumatic, lithemic and gouty conditions that Brudenell Carter cautions against the "attempts of certain writers to draw the trail of a sometimes imaginary diathesis across the manifest phenomena of an obvious malady." It is certain that the internal treatment in this class of cases does not always confer conspicuous benefit, and we should not rely on it to the prejudice of energetic local measures.

A few cases of iritis have been reported by Jacobson[2] and Pechni which were apparently due to malaria. The proof is not conclusive, but in such cases quinin should be administered, the time and quantity being determined by the blood examination.

Tuberculous iritis presents particular therapeutic indications. In addition to a vigorous supporting plan of internal medication, the injection of tuberculin, injections of air into the anterior chamber and various general medicaments, have been advised. Heath[3] treated one case by injecting air into the anterior chamber, with unfavorable results, though he quotes favorable reports from Koster and Felix. The reports on tuberculin are hardly more encouraging. Falkenburg[4] observed three cases, two of which he treated with tuberculin. In both of these enucleation finally became necessary and both patients later died of meningitis. The third patient received no tuberculin and at the end of five years was in good health. Nevertheless it would seem advisable to administer tuberculin, but unless improvement sets in promptly the eye should be removed.

Treacher Collins' article on "Intraocular Tuberculosis"[5] came to notice while this paper was being prepared. It only emphasizes the uncertainty which attends the use of tuberculin, but the majority of the evidence, especially the experimental evidence, both with old tuberculin and tuberculin T.R., is adverse.

A variety of causes have occasionally been found to be at the bottom of a case of iritis. Thus Fage[6] saw a patient with iritis who had also ozena, but no other apparent cause for the iritis. Nasal antisepsis seemed to hasten the cure. We frequently seek in the nose for a cause of chorioiditis, and it is not a surprise to have so pronounced a nasal affection fastened on as the cause of iritis. Westhoff[7] observed iritis as a symptom of iodism, and cases have been reported plainly due to oral sepsis. These few instances will at least serve to show how far we should seek for the cause of iritis, since, when found, its elimination often simplifies the management of the ocular condition very materially.

Aside from its relation to cause, the internal treat-

1. Amer. Jour. of Ophthalmology, June, 1904.
2. Amer. Med., Feb. 8, 1902.
3. Ophth. Record, May, 1904.
4. Inaug. Diss., Tübingen, 1901.
5. Ophthalmoscope, February and March, 1907.
6. Oph. Rec., 1898, p. 32.
7. Med. Weekblad, 1898, p. 16.

ment of iritis is of much importance. As has been intimated, besides their action in those cases manifestly due to syphilis or rheumatism, mercury and the salicylates are of great value in other forms of iritis. Mercury seems to be specially indicated in cases with much plastic exudation, early tendency to the formation of adhesions, and the rather uncommon type in which a large transparent mass forms in the anterior chamber, the spongy iritis of Knapp. This exudate melts as if by magic under the influence of mercury. In my experience, the drug is best given by inunction, though painting on the oleate or deep injections of bichlorid or of gray oil may be used. Except in chronic cases or cases associated with chorioiditis and running a slow course, I am not favorably impressed with the action of iodids in iritis. Nor are sweats apparently so potent as in chorioiditis or a general uveitis, but they are of undoubted value nevertheless, as has been pointed out before this Section by Drs. T. A. Woodruff and Hiram Woods. Given in the manner suggested by the former, the activity of other measures is notably increased, and the systemic cleansing is also of great benefit. While pilocarpin has many advantages in producing sweats, other means may be resorted to, such as vapor baths and Turkish baths. In this connection mention should be made of what Burnham of Toronto calls his "combined method." It consists in administration of bichlorid of mercury, 1/24 gr., with potassium iodid, grs. 5 to 10, and on alternate day a hypodermic injection of pilocarpin, gr. 1/12 or more. He claims that much benefit results from this treatment in iritis and iridocyclitis and various other ocular diseases. The treatment is given for twelve days and the pilocarpin is left off for from one to six weeks, to be given again for twelve days. The treatment is to be continued indefinitely, according to the needs of the particular case. Burnham's claims for this plan of treatment sound extravagant, and as far as I know no one else has followed exactly this plan. It is certainly well worth a trial.

DISCUSSION.

DR. ALLEN GREENWOOD, Boston, stated that the questions of the best means to hasten the absorption of exudates and break up adhesion, of when to stop the mydriatic, of how best to relieve secondary glaucoma, and of the best means of preventing recurrences, often put to the test the best judgment we possess. He endorsed the use of solid atropin in some obstinate cases, with the proviso that it be used only by the attending ophthalmic surgeon. He uses a piece about the size of a small pinhead, and after thoroughly cocainizing the eye, places the particle with forceps or brush in the lower cul-de-sac. The patient is told to hold his finger over the lachrymal region for fifteen or twenty minutes. Sometimes Dr. Greenwood uses this method of getting an extra pull five or six hours after the patient has once or twice instilled pilocarpin. He has seen adhesions give way under the solid atropin treatment when before they had shown no signs of farther yielding under ordinary treatment, and he has never seen the slightest ill effect from this use of atropin by the surgeon, while he frequently sees severe constitutional symptoms produced by the 1 per cent. solution used too freely by the patient at home. Lately, Dr. Greenwood has convinced himself that a previous use of dionin helps the atropin in its work of thinning and rupturing the adhesions, and in many cases in which leeches, hot fomentations, and cocain have done but little to ease the agonizing pain, dionin has had a magic effect. The patient should always be warned of its effects on the conjunctiva and lids, lest he be frightened by the chemosis and swelling. Besides relieving pain, dionin frequently stops an impending secondary glaucoma, and there is no doubt that impending high tension and severe pain are frequently associated as cause and effect and that dionin relieves both, by its dual action as a lymph vessel dilator and as an analgesic. It may be used as a 5 to 10 per cent. solution, or as a powder dusted directly in. Dr. Greenwood cautioned that in using atropin one must err on the side of using it too long, or run the risks of early and often disastrous recurrences. It is a good rule to continue the daily drop of atropin for one or two weeks after it seems to all outward appearances to be safe to discontinue it.

To relieve secondary glaucoma, pilocarpin or eserin, alternating with the atropin and supplemented with the frequent use of dionin, may be sufficient. In using the myotic, care must be exercised not to produce a myosis that will allow fresh adhesions, for it would be much better to do an immediate paracentesis, an operation which Dr. Greenwood believes deserves much more frequent application than has been accorded to it. Zur Nedden, in his article on the therapeutic and diagnostic value of early puncture of the anterior chamber in iritis, mentions the results of twelve cases of iritis produced in rabbits, in which paracentesis was the treatment used. Eyes so treated recovered in from eight to fourteen days; eyes not so treated recovered in from three to four weeks. Five cases so treated in man seemed to confirm these good results.

In cases not quickly and permanently relieved by these methods one should not hesitate to perform an iridectomy. Besides relieving the glaucoma, it hastens recovery from the iritis and is not followed by bad results. Recurrences are to be prevented by treating the general condition. Mercurials are useful in all forms of iritis, and frequently the salicylates and guaiacol. Dr. Greenwood agreed with Dr. Ellett as to the value of the frequent use of leeches and in the invaluable aid furnished by moist heat. He has seen chronic cases much benefited by the pilocarpin sweat, and in this connection reminded those trying it for the first time not to allow the patient his morning use of atropin drops if they wish the full diaphoretic action of a moderate dose of pilocarpin; a point frequently overlooked.

DR. H. W. RING, New Haven, Conn., added his testimony as to the effectiveness of the use of the actual powder of atropin in these cases. He had a case that would not yield to the ordinary solution. He put in a small grain of powdered atropin and some dionin, and was able to keep the pupil perfectly dilated. Later, he had a similar case in which the usual method failed. He then tried this powder again, with the same result. Since that time he has had four other cases, in two of which he did not try other methods first.

DR. J. F. BYINGTON, Battle Creek, Mich., found that some of these cases of iritis yield to subconjunctival injections of normal saline solution. Their effect is somewhat similar to dionin, and they may be employed after dionin has ceased to be effective, on account of the tissues becoming accustomed to the drug.

DR. A. E. DAVIS, New York, reported a case of poisoning from the use of the powdered atropin. The case was one of iritis of both eyes. The adhesion would not yield to the solutions of atropin. He used dionin in powdered form first, then immediately after the powdered atropin. Its use was followed by marked atropin poisoning of such severity that Dr. Davis had to call in a general physician. The patient was put to bed, kept quiet, and in about six hours he was all right again. In this case the powdered atropin was used in both eyes, so that there was, of course, more opportunity for absorption.

DR. J. H. SHORTER, Macon, Ga., corroborated what Dr. Ellett said as to the bad results in these cases in negroes, but did not agree as to the cause. The bad result probably is due to the fact that negroes, being ignorant, try all sorts of remedies before they go to the doctor and the iritis has been allowed to progress to the last degree. It is almost proverbial that syphilis is less virulent in the negro race than in the white. Almost all negroes have syphilis, but they often go without any treatment and without serious tertiary results. They seem to be partly immune, but it seems to be different in the case of iritis and Dr. Shorter attributes this to the fact that they allow it to go on untreated.

DR. C. H. WILLIAMS, Boston, Mass., confirmed what Dr. Greenwood said as to the value of paracentesis. He remembered that when a student in Zurich thirty years ago, he had been impressed by the frequent use Horner made of para-

centesis. Its use is followed less often by secondary glaucoma; it gives more relief from pain and oftener permits the separation of persistent adhesions. It deserves more general use.

DR. W. R. PARKER, Detroit, emphasized the last point made by Dr. Williams in reference to paracentesis. During the past two years he has been using, almost as a routine measure in these cases of plastic iritis, repeated tapping of the anterior chamber and as yet has no reason to regret having done so.

He has noticed a type of iritis, the form following a posterior uveitis, in which there is almost no reaction, but an increase of tension. Two or three such patients had been treated for glaucoma. These cases must have atropin in spite of the increased tension. By repeated tapping and pushing the atropin one may save some pupil even though the iritis runs its course. Dr. Parker favors the use of dionin in the relief of pain in these cases of plastic iritis with secondary glaucoma; it certainly gives relief.

DR. R. S. LAMB, Washington, D. C, thought it a mistake always to consider an iritis as syphilitic. He had a patient with secondary glaucoma from rheumatic iritis who had been treated for a year and a half for syphilis. She had hemorrhagic glaucoma in one eye, that had to be removed on account of the great pain. The other eye improved and she has been able to see a little with it. As to syphilis in the negro, Dr. Lamb does not agree with the statement that the negro has immunity; if he has, it is an acquired immunity, in certain families. Iritis is very common and severe adhesions, posterior synechiæ, are the stages seen. Dr. Lamb still finds leeching very useful.

DR. EDWARD JACKSON, Denver, stated that Dr. Ellett's division is good for the purposes of the paper, but in practice constitutional treatment should be placed first. More can be done by intelligent constitutional treatment than by intelligent local treatment. It is discouraging to see a patient come in with marked adhesions, the history of pain, preventing sleep, and no improvement at all in five weeks of continuous treatment locally, with not a dose of medicine by the mouth. One patient had had atropin, hot applications, leeching, dionin; and had not received a dose of internal medicine. The patient was under the care of a general practitioner. Syphilis, rheumatism, tuberculosis, autointoxication, diabetes, and a long list of general diseases cause iritis; and the first thing to do in the treatment of an iritis is to find out which of these general conditions is responsible, and to direct attention to the treatment of that condition.

DR. LEARTUS CONNOR, Detroit, said that early in his practice he had charge of a case that was not doing well. He asked an old friend, Dr. J. F. Noyes, to see the patient. Dr. Noyes advised giving the man 20 grains of calomel and 20 grains of bicarbonate of soda, and emphasized, that no matter what the cause of the iritis, its treatment should be commenced by a large dose of calomel and soda. The old doctor was right. Dr. Connor expressed some surprise that the introduction of powdered atropin was looked on as a new thing; for twelve or more years it has been his habit to use it because, first, it remains in the eye, and, second, the dose can be gauged accurately. He has yet to observe the first case of atropin poisoning from its use.

DR. HIRAM WOODS, Baltimore, agreed with Dr. Jackson as to the importance of classification and attention to the systemic cause. Of course, the early use of atropia is essential. The late Dr. Julian J. Chisholm, irrespective of cause, put the patient to bed and gave large doses of salicylate of sodium, 20 or 30 grains, every two or three hours, until he obtained constitutional effect, even to the point of delirium. Researches by Friedenwald and others have since demonstrated that this drug has a selective and controlling effect on inflammation in the anterior segment of the eye. In undoubted syphilitic cases Dr. Woods has seen this treatment favorably affect a commencing iritis. Regarding the use of mydriatics Dr. Woods said that sometimes pain is increased by atropin, and the ciliary area, usually not sensitive to pressure in iritis, becomes exquisitely painful to touch. The meaning is that the ciliary bodies are becoming involved. In such a case as this, in the hospital some years ago, he had the opportunity of consulting with Dr. Knapp. He suggested that euphthalmine in 5 per cent. solution be substituted for atropia. The mydriatic effect of euphthalmin is prompt, but it does not last so long as atropia. By these frequent relaxations the ciliary processes are unloaded, so to speak, into the iridic vessels, while a new application of euphthalmin restores temporary dilatation. Dr. Woods did not advise this substitution as a routine, but only when the ciliary bodies are threatened. In this class of cases he has seen great benefit from this substitution.

DR. G. C. SAVAGE, Nashville, Tenn., pointed out that the *sine qua non* of the treatment of iritis is dilatation of the pupil. He has seen more lost eyes from iritis where everything had been done in regard to the constitutional treatment, without using atropin, than when atropin alone had been used. Oculists, he said, should always remember that they are internists as well as oculists. Dionin is a solvent of lymph. He has had cases in which a film of lymph extended all over the pupilary opening, and under dionin it melted away—hence an explanation of its helping the dilatating effect of atropin. It dissolves this plasma and weakens adhesions; thus it gives the atropin a chance to pull the pupil open.

DR. E. C. ELLETT, Memphis, Tenn., stated that Dr. T. A. Woodruff had asked him to say something about a remedy he has used in cases of plastic iritis, especially those of specific iritis, which has not been mentioned here this morning. It consists in the subconjunctival injection of a solution of iodin; the injection is made in the usual manner, four or five minims being injected well back with the idea of getting into the capsule of Tenon. He said he had seen it suggested in an article by Dr. E. E. Gibbons, of Baltimore, in the *Journal of Eye, Ear and Throat Diseases*, June, 1902. The solution consists of iodin crystals, gr. 1/7; potassium iodid, gr. 1; distilled water, 1 ounce.

A good suggestion as to the use of pilocarpin is to apply an icebag to the patient's head when the pilocarpin is given. This will contribute very greatly to his comfort and the sensation of fulness of the vessels of the head is done away with to the patient's great satisfaction. A patient does not have to use atropin very long until the breath becomes so offensive that it is unpleasant to go into the room where he is. This is due to disturbance of the salivary and digestive secretions. Daily attention to these secretions must, therefore, be of great importance. In regard to constitutional treatment, that, he said, was considered in the paper, and particularly along the lines that have been referred to, the administration of anti-rheumatic and anti-syphilitic remedies.

TREATMENT OF ULCERS OF THE CORNEA.*

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This paper is limited to treatment of ulcers of the cornea, but to indicate intelligently the proper procedures which one must use in treating this ever varying symptom it is necessary to have as a basis some classification of the pathologic process, for the treatment must vary according to the conditions. In other words, no hard and fast lines can be laid down for the handling of ulcerations of the cornea *per se*.

If we consider the subject from the standpoint of development then we have to treat ulcers of the cornea on the ground that they are either primary or secondary, and if secondary the cause is of first consideration in the line of treatment. The treatment, too, is modified, as the ulcer may be marginal or central, superficial or deep, simple or infected, progressive or regressive. Then, also, we may have to approach the subject from the sympto-

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matic standpoint and possibly this may be the best way to approach it. Some symptoms are common to all forms or classifications of corneal ulcers, and not infrequently the trouble has to be treated entirely according to the symptoms: Pain, photophobia, impairment of vision, pericorneal injection, loss of corneal tissue and sometimes iritis.

For pain and photophobia in acute stages a solution of the sulphate of atropin is useful, from 1 to 4 grains to the ounce of distilled water; two drops are instilled in the conjunctival sac from once every three hours to three times a day; a saturated solution of boric acid is also useful as a lotion, and a pair of plain or toric dark glasses may be needed. In sthenic cases leeches may be applied to the temple in addition to the preceding treatment. Solutions of cocain for pain and photophobia give immediate relief, but do more harm than good if used at all continuously. If conjunctivitis coexists the lids may be touched up with a solution of nitrate of silver, from 2 to 5 grains to the ounce. In the subacute and torpid stages, or when acute symptoms do not exist, stimulation should be practiced, and this is accomplished by the use of the yellow oxid of mercury ointment, combined with atropin, or by itself in the later stages when atropin is not needed. At this stage powdered calomel, iodoform or thymoliodid (aristol) may be sprinkled on the ulcer instead of using the mercurial ointment. A solution of the sulphate of eserin, instead of atropin, is frequently used when the ulcer is small and sluggish.

In deep and sloughing ulcers atropin is almost universally used because of its quieting effect and because it lessens the chances of iritis, but frequently eserin is the better remedy, because it has a tendency to stop the migration of white corpuscles and promotes absorption, through dilitation of the ciliary vessels, at the same time lessening tension. It is particularly indicated in marginal ulcers in strengths of from gr. ¼ to 1 grain to the ounce of distilled water, one or two drops of this solution being instilled into the eye at intervals of from four to eight hours; but on account of its tendency to promote ciliary congestion and iritic irritation, a solution of the sulphate of atropin in strengths of from gr. ½ to 4 grains to the ounce of water, two drops, once daily, should be used to overcome this tendency. Dionin (ethyl-morphin hydrochlorid), combined with the atropin or eserin, in strengths varying from 1 to 10 per cent., has been used to aid these drugs in allaying pain and promoting absorption.

When perforation is impending antiseptic compresses should be used continuously, except when making the local applications or when suppurative conjunctivitis exists. If the floor of the ulcer bulges a paracentesis should be performed, followed by application of eserin or atropin, depending on the location of the ulcer. Paracentesis may have to be repeated several times in order to relieve pain and to hasten recovery.

Spread of local infection may be stopped or retarded by scraping with a curette, by the application of chemicals or by the use of the cautery. After curetting away all the sloughed material it is well to touch up the ulcer with a solution of corrosive sublimate, 1 to 2,000, and to dust on iodoform or other antiseptic powder. Cauterization is indicated in all sloughing ulcers when other measures have not been efficacious, and in infecting ulcers of the serpiginous type.

Bandages are used either for protection or pressure; for protection they are applied to keep the lids closed and to keep the ball quiet and to keep out dust and light, but they are contraindicated if there is much secretion.

We must also take into account the general health of the individual affected, the locality in which he lives and his age. There is nearly always a lowered vitality with a corneal ulcer, and by use of constitutional measures corneal resistance is increased. A calomel purge should be given to rid the system of bacteria and their ptomains. The system should be toned up with fair doses of quinin, which increases the phagocytic action of the cells and reinforces the resisting power of the cornea. If we would have our treatment in all particulars a success none of these considerations may be neglected. Definite rules may not be laid down, but certain principles are common to the various types.

The cause must be removed in order that the symptoms may be speedily arrested. It is not always possible to locate or to designate the cause of a given ulceration, but when due to the presence of a foreign body in the conjunctival sac or on the cornea itself, the irritation must be effectively removed. When ulceration is due to misplaced or misdirected cilia, these should be removed by electrolysis in order that they may not again be objects of irritation. When a chronic catarrhal conjunctivitis, or an acute contagious conjunctivitis, or a trachomatous condition coexists with an ulceration of the cornea, any one of them should receive our first consideration when blocking out our line of treatment, for while they may not be the direct cause, they are always aggravating factors. Chronic catarrhal conjunctivitis may require several changes in treatment before it is conquered, as the conjunctiva soon becomes accustomed to or wears out one line of treatment. If the secretion be considerable a solution of nitrate of silver, from 1 to 10 per cent., may be used to touch up the membrane of the conjunctiva, or a solution of from 0.25 to 0.5 per cent. may be dropped into the conjunctival sac, to be followed by a thorough washing of the conjunctiva with a boric acid or normal salt solution. Of late years many prefer a solution of argyrol (silver vitellin) varying in strength from 10 to 50 per cent.; this drug has the advantage of being much less painful than nitrate of silver, but has the disadvantage of being exceedingly mussy. Sulphate of zinc is another favorite remedy in solutions varying in strength from 1 to 5 grains to the ounce of water. The alum stick applied to the mucous membrane of the lids may be used at times with great advantage. With all of these, solutions of boracic acid are used for cleansing and antiseptic purposes.

If we have phlyctenular conjunctivitis to deal with it is not infrequently connected with a phlyctenular keratitis, and here the general health must be treated, as well as the local conditions, if we desire the best results, and an ulceration is the essential pathologic condition. The patient should be built up on iron and the ulcer stimulated.

Acute contagious conjunctivitis, when due to the gonococcus, is very likely to have ulceration of the cornea as a sequel. Solutions of nitrate of silver have been the standby to prevent and remedy this complication. Later solutions of protargol (protein silver salt) were used and lauded by many operators; and, later still, argyrol (silver vitellin) has had its many enthusiastic users. One of the most recent aspirants for favor in these infective ulcers is desiccated yeast. It is freshly prepared for each application, which may be anywhere from every hour to once or twice daily. The desiccated yeast crystals are mixed with distilled water until they are

thoroughly dissolved, making a creamy solution, which is put into the conjunctival sac with a dropper or rubbed into the ulcer with a cotton-tipped applicator. This remedy is useful, not only in gonorrheal infections of the conjunctiva, but in many other conditions characterized by considerable secretion.

Having removed the cause, one should endeavor to prevent the spread of the ulcer, that perforation, with its diastrous consequences, may not take place; or that opacity of the cornea may not be so extensive as materially to impair the vision. Probably this extension may be best prevented by the use of mercurial ointment, the yellow oxid being the favorite, in strengths varying from ¼ to 1 grain, thoroughly mixed with one dram of lanolin or petrolatum, with directions to use a piece one-half the size of a kernel of rice within the conjunctival sac and thoroughly distributed by massage once or twice every twenty-four hours. If the ulcer shows a pertinacious activity, it may be scraped with a corneal spud, or touched up very carefully with the pure tincture of iodin, anhydrous carbolic acid or the galvanocautery.

A simple central ulcer, by neglect or through poor nutrition, may develop into a purulent or deep ulcer. If the ulcer be centrally located, it ought to be treated with a solution of the sulphate of atropin in strength of from 1 to 4 grains to the ounce; but the treatment for peripheral ulceration would the more likely be productive of good if a solution of sulphate of eserin in strength of from ½ to 2 grains to the ounce were used, especially if the ulceration is very deep, because it lessens tension.

As pain has a tendency to increase tension, it may be combated by intermittent moist heat. Cloths wrung out of hot water and placed on the eye for from ten to thirty minutes, every hour or two, will ordinarily make the patient comfortable, but poultices should never be used. The moist heat not only diminishes the pain, but it allays the congestion, develops blood vessels, and by increasing nutrition hastens the process of repair. Nothing in the way of medication which may leave metallic deposits on or in the cornea should be used, and all collyria should be soothing. When perforation is threatening, myotics should be used or paracentesis performed and this may be repeated every twenty-four or forty-eight hours, if necessary.

Should the necrotic process be marked, subconjunctival injections of bichlorid of mercury may be used in strength varying from 0.1 to 1 per cent., depending on the extent of the necrosis.

Secondi uses as a subconjunctival injection, when such conditions exist, a solution composed of one part of bichlorid of mercury, two parts chlorid of sodium, 2,000 parts of water, injecting anywhere from a few drops to half a dram.

Darier injects a few drops of a 1 to 4,000 solution of the cyanid of mercury. These measures should be preceded by instillation of a few drops of a cocain or holocain hydrochlorid (ethenyl-paradiethoxy-diphenyl-amidine hydrochlorid) solution in the conjunctival sac, as the injections are painful and are liable, by reason of their irritating qualities, to produce a necrosis of the conjunctiva. A normal salt solution seems to be just as efficient a subconjunctival injection, without the necrotic tendencies. If, under these lines of treatment, the ulcer continues to spread or to grow deeper, cauterization is indicated, and this may be accomplished either by drugs or cautery. A 50 per cent. solution of the nitrate of silver, tincture of iodin or pure carbolic acid are the drugs most commonly used. They may be applied to the ulcer by means of a small piece of cotton wound on a wooden toothpick, using only enough of the drug to cover the ulcer. The actual cautery or the galvanocautery is useful and sometimes most essential, but should be used only by the expert and on patients not exceedingly nervous, except in desperate conditions. A 10 per cent. solution of nitric acid, applied with the cotton-tipped toothpick, is exceedingly efficacious in serpiginous ulcers, and when this fails a Saemisch incision may save an otherwise almost hopeless eye. In severe ulcerations, due to diplobacilli, Paul recommends Peters' zinc-ichthyol salve.

Chronic serpiginous or Moren's ulcers have always been prognosticated unfavorably, in the light of the results of ordinary treatment, on account of the tediousness of the disease and its tendency to relapse, but it would appear, from the reports of Paul and Romer, that the prognosis has become vastly better by the introduction into the treatment of Romer's pneumococcus serum. One c.c. of the serum is injected into the subconjunctival tissue at the first treatment and one-half the amount on every other day. It is not so painful as the cyanid of mercury.

The process of repair is promoted by all the measures mentioned. The moist heat favors the separation of necrotic tissue, promotes development of blood vessels in the cornea and relieves pain. Paracentesis through the base of the ulcer or outside of it, when perforation is threatening, does good by relieving tension and starting the flow of lymph, thus promoting repair.

If perforation and prolapse of the iris occur early, the patient should be anesthetized, the iris drawn out and cut off, the spatula being used afterward to tuck back into place the angles of the iris coloboma. Sometimes a piece of conjunctiva, twice the size of the original opening, is tucked between the edges of the corneal wound and secured by a compress bandage. This results in a flat scar externally and an anterior synechia internally.

All ulcers leave behind them opacities of greater or less density, which last for short or long periods of time, depending on their character. These need stimulation, which may be accomplished by the various mercurial unguents, the favorite of which has already been mentioned, if only a mild stimulant be needed. Calomel in powdered form, sprinkled on the cornea very lightly, once in twenty-four hours, gives a more active stimulation, while jequerity, in powdered form or in watery solution, will set up an acute inflammation, which results in a marked clearing of the cornea, where blood vessels have been the chief cause of the opacity.

Galvanic electricity has also been used for the removal of corneal opacities. A silver-cupped cathode, with a drop of mercury on it, is placed on the cornea, while the sponge anode is placed on the cheek, and a current of from one-quarter to four milliamperes is turned on for a period of from one to five minutes, every three or four days. Massage by a facial artist or expert masseur may be of much value. This may be direct to the cornea itself or indirectly through the lids from one to three times daily. Massage is assisted very materially by the use of hot packs.

The internal treatment of opacities must not be overlooked, especially in patients concerning whom it can not be said, as it was of Cæsar's wife, that they are above suspicion. In such, saturated solution of the iodid of potassium, in gradually increasing doses, run-

ning from 5 grains three times daily to 60 or 70 grains three times in the twenty-four hours, will work wonders, and in many cases in which we are unable to find any specific history or symptoms this drug will frequently give very decidedly happy results.

Another drug, concerning which much favorable mention has been made as a scar remover, is thiosinamin (allyl sulphocarbamid), but with what confidence one may praise its selective power on the cornea it is a little unwise to say. It is used internally in from two to three grain capsules, two or three times daily for two or three months, or by hypodermatic injections into the skin of the back in solutions of varying strengths, daily or every two or three days, over a period of five or six months. That it does have a very marked effect on the scar tissue, softening it and causing it to disappear to a great degree in patients on whom no other treatment is being directed, there can be no doubt, but in many patients it seems to affect the scar tissue not at all, and as yet no rules have been formulated to differentiate or to determine beforehand the patients to whom it will be beneficial.

Thus far the treatment has been directed at the opacity itself, locally or through the general system, to the end that vision might not be interfered with. Having failed in clearing up any given opacity of the cornea, which interferes with the vision, if there be any peripheral cornea transparent, vision may be secured by an iridectomy or an iridotomy. There are many cases in which everything has been done which is possible for vision, but in which the opacity is central and unsightly. This may be removed, or at least for a limited period, by needling with or without India ink or by keratoplasty.

As Theobald says, there is a vast difference in the behavior and in the intractability of corneal ulcers. In some instances, they are uncontrollable and tend to go from bad to worse, in spite of all that can be done to combat them, and this probably depends on the nature of the bacteria producing the ulceration and the feebleness of the opposition.

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DISCUSSION.

PROF. CARL HESS, Würzburg, Germany, reported that some good results had been obtained with the pneumococcic serum in cases due to the pneumococcus alone, especially in recent cases. It is successful not only in mild cases, but even when the patient comes with half of the cornea destroyed. In the latter cases the cautery is employed also. In every instance the serum is injected first.

DR. E. A. SHUMWAY, Philadelphia, emphasized the importance of the question of etiology of corneal ulcer. Not only is one better able to anticipate the severity of the process after determining the micro-organism present, but more intelligent treatment can be given. In the early stages it may be impossible to distinguish clinically between a severe type of ulceration and an ordinary mild infection. If the pneumococcus is found, however, the treatment must be energetic, cauterization applied early and paracentesis promptly resorted to if the process advances; on the other hand, the presence of the diplobacillus assures us that the condition will be readily controlled. This investigation has been repeatedly urged, and all should recognize the fact that the clinical diagnosis is incomplete unless supplemented by bacteriologic examination.

The obtaining of the material is, of course, not so easy as in conjunctivitis. The superficial exudate must first be removed, and some of the material from the deeper part of the ulcer secured, especially from the advancing line of infiltration, in the serpiginous ulcer, if the true cause is to be found. The investigation must therefore be made only by the hand of the skilful surgeon, as the movement of an unquiet patient may produce further traumatism to the cornea, which will be followed by a rapid extension of the process along the line of injury. Active treatment to the ulcer should follow immediately the removal of the necrotic tissue. Another point of prime importance is the search for disease of the lachrymal passages. Many of the most severe and obstinate cases of ulceration, especially in elderly people, are due to infection by the pus from a dacryocystitis. The discovery of the condition is therefore to be followed by free opening of the canaliculus, cutting of any obstruction in the nasal duct, and irrigation of the canal with antiseptic solutions. If this does not control the suppurative process, the sac should be promptly excised. He considers dionin a valuable drug in the treatment of ulcer. To its action as a lymphagogue, in stimulating the removal of the bacterial toxins, and its analgesic effect, must be added, as Callan has shown, a decided action in stimulating corneal regeneration. In the after-treatment of the resulting maculæ, also, it is of assistance in clearing them up, but its best effect is secured by intermitting its use for several days, from time to time, as an immunity is readily established. The treatment of serpiginous ulcers is often exceedingly discouraging. Much has been hoped from the use of Römer's pneumococcus serum. So far, however, the results have been distinctly disappointing, and Römer's reported successes have never been repeated elsewhere. The addition of the injection of sterilized cultures of the organisms to that of the polyvalent serum (Merck), which Römer has most recently advocated, may make the treatment more effectual, but thus far Dr. Shumway does not think the method has been employed by any of our American surgeons.

DR. L. H. TAYLOR, Wilkes-Barre, Pa., said he thought Dr. Ellis did not lay stress enough on the use of the cautery. He lives in a community where there are a great many of these infected ulcers and it is his practice always to cauterize without waiting. Whenever a patient comes to his office with an infected ulcer, without waiting to find out the cause, he knows there is a serious process and that it needs energetic treatment, and he at once applies tincture of iodin. He formerly used, for a number of years, the actual cautery, and still uses it in a certain number of cases, and his chief reason for using the iodin instead is that it is less terrifying to the patient, is more readily applied, and while it gives some pain is not so unpleasant to the patient. He gets excellent results and thinks a less dense leucoma follows its use than after the cautery. He believes that theoretically what Dr. Shumway says is true if we have the appliances to make the bacteriologic examination, but if we have an infected ulcer to deal with we know that it is a serious condition, and the proper aplication of the iodin does not do any harm.

DR. J. A. TENNEY, Boston, said that he had been in the habit of making use of a method that was first brought forward by Dr. Williams of Cincinnati at the International Congress of Ophthalmology in 1876; that is, touching the bottom of the ulcer with the strongest solution of carbolic acid. He uses that all the time. He cited one case: An Italian girl was brought to him with a deep ulcer in each eye. The mother said they had been to the Eye and Ear Infirmary. He told them they should have left the child there, as it would at least have received proper nourishment. The child was so stupid that it scarcely needed an anesthetic. He took the carbolic acid on a probe and dipped it down into the bottom of each ulcer. That was on Monday; on Wednesday he saw the child again and the ulcers were then healing.

DR. JOHN A. DONOVAN, Butte, Mont., said that Dr. Ellis gave the best known and most reliable treatment that could be recommended, with the exception that possibly nitric acid should be used in preference to the other caustics. In the hands of experts he recommends the electrocautery, and ophthalmologists should be experts. The electrocautery, small short electrode, in handle at angle of 45 degrees, at a barely dull red heat, simply lightly touched at spots at 1 or 2 millimeters apart, all around the edge of the ulcer, not touching its floor, if that looks healthy, is by far the best treatment. He has used the cautery in many hundreds of cases, and has had but one in which three cauterizations, at the most (with rest in bed), did not control its spread. In this case he cauterized four times, used nitric acid once, opened anterior chamber three

times, cauterized then the fifth time, saved the eye and some vision. In no case in the last seven years, in which he has used it constantly, has he had the least cause for regret, and there is never a time that he does not have some cases under treatment. To him it is as easy to use, equally convenient, better controlled, and infinitely more reliable, while fully as safe, if not more so, than any other method.

DR. G. C. SAVAGE, Nashville, Tenn., emphasized the value of dionin. It relieves tension, which gives great comfort, for the pain is largely due to the increase of tension. He believes the very best agent for the local treatment of corneal ulcers is acetic acid. It will destroy the germs; it has penetrating powers. It not only destroys the germs lying on the surface, but reaches those deeper in. The great advantage it has over any other application is that it does not destroy cell tissue. The epithelium is turned white for a moment, but soon clears up and the vitality of the tissue is greater than it was before. Iodin, the cautery and carbolic acid all destroy cell life as well as germ life. To his mind acetic acid has a decided advantage over any other application we can make to an ulcer. Besides making the application of the acid (1 part to 7 to 10 parts of water), with a cotton-wrapped toothpick, under cocain, he nearly always gives a weaker solution of the acid (5 to 10 drops to 1 ounce of water), to be used constantly.

DR. LEARTUS CONNOR, Detroit, said that one individual will find one agent better and another another. The thing is to destroy the malignant germs without harming the cell tissue. He has used all the remedies mentioned, with excellent results. At one time he used to fill the eye with a solution of bichlorid of mercury and then with a scoop curette the ulcer and obtained very good results. He thought the use of dionin important because the drug reduces the tension considerably. Dry cupping of the temples he finds helpful in certain conditions. In some cases he never omits a vigorous calomel and bicarbonate of soda purge and always regulates the diet with the idea of keeping the tension low. Generally patients get the greatest good as well as comfort from the local use of hot water. It is very effective and can not do any harm. He uses a tumbler, applied touching the nose and edge of bone below the socket and then raised until the eye is in the water. It is the next best remedy to atropin.

DR. S. L. LEDBETTER, Birmingham, Ala., said he had used hot water in the manner referred to by Dr. Connor, using a teacup and telling the patient to turn it over the eye and open and close the eye, having them use it frequently and for five or ten minutes at a time.

DR. H. B. ELLIS, Los Angeles, said that, for the last four or five years, he did not think he had ever had a case but what he had used dionin, in conjunction with atropin or eserin; sometimes separate from either of these, and as a promoter of absorption and for the relief of pain he knows of nothing better.

ALIMENTARY INTOXICATION.

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A series of toxic symptoms are frequently observed during the course of nutritional disturbances in infancy which Finklestein has termed alimentary intoxication. The clinical picture made up of these symptoms is better known under the appellation entero-colonic catarrh, milk poisoning, bowel infection, etc., and in the severer cases the term cholera morbus is applied to it.

The attack does not occur suddenly in a previously healthy infant, but, on the contrary, in one in whom a distinct deviation from the normal has existed for some time, which can only be ascertained by a close study of the daily temperature and weight charts. Clinically, such children may not, at this time, present any prominent symptoms. They may or may not be irritable and restless during sleep. The stools often continue normal in appearance and number, or they may be increased to three or four in the twenty-four hours, and be of thin consistency. Occasionally, regurgitation of food after feeding is observed. There is a daily fluctuation of temperature, which is never marked, varying from 1 to 2 degrees. The weight curve shows that the infant, instead of gaining, is standing still or losing slightly.

This condition is always found to be preceded either by a quantitative or qualitative increase in the diet or the substitution of some other diet, which has carried with it an equivalent effect. This period is spoken of as the dyspeptic stage. It illustrates how close a relation exists under certain conditions between disturbances in the infant and food changes. This can readily be demonstrated, and, in fact, is occurring constantly in practice, by increasing the diet to intolerable points, uncontrolled by accurate temperature and weight records. In this manner this stage can be diagnosed intelligently, and the climax of intoxication may be aborted by taking appropriate measures. The dyspeptic stage may continue for days or weeks before the onset of the severe toxic symptoms. The latter may occur suddenly, at any time, during the dyspeptic period or after an additional increase in the diet.

The onset of the intoxication is announced by marked nervous symptoms, which may take on one of two forms. After a varying period of irritability, the infant is seized with convulsions, followed by a condition of sopor or coma, or he may become apathetic, very drowsy, not easily awakened, soporose and in some instances comatose. Occasionally, the temperature remains afebrile, but, as a rule, it rises sharply.

The number of stools are often increased, but not infrequently seem normal in appearance and number at the beginning of the attack. Considerable depression is evident, and in the severe forms there is marked collapse, with a low blood pressure and livid skin. Prior to, coincident with, or subsequent to the rise of temperature, there is a sudden decline in the weight curve, the loss often reaching from 400 to 700 grams in from 24 to 48 hours. The breathing is accelerated, deep and may be misinterpreted as a pulmonary symptom.

A striking feature at the height of intoxication is the alimentary glycosuria, dependent on lactose and galactose, and due to their absorption and failure to undergo oxidation. At the same time, an albuminuria and cylindruria may be found. A leucocytosis is invariably present during the acute stage, but not exceeding 30,000. Skin manifestations, such as vasomotor exanthemata, scleroderma, etc., are not uncommon.

A study of the physiognomy is most important in the diagnosis of this condition. A comparison of the expression and facial movements of the infant suffering from alimentary intoxication with that of the normal healthy child will readily show the finer grades of disturbances of consciousness, etc., and enable one in the first glance to recognize the infant suffering from intoxication. The face is usually relaxed, or drawn, as if in pain. The eyes may appear fixed, staring into space, or move slowly on attempts to attract attention.

The entire clinical picture varies in severity in different cases. In some cases all the symptoms will be found present in classical form; in others, certain symptoms will be so pronounced as to overshadow the rest. There are certain familiar conditions which Finklestein has styled forms of alimentary intoxication.

1. The choleric form, with great loss of weight and extreme collapse, and only slight evidence of cerebrospinal symptoms.

2. Hydrocephaloid form, in which the nervous symptoms predominate, simulating a tubercular meningitis.

3. Soporose form, in which, from the beginning, there is deep sleep, which may deepen into coma, while all the other symptoms may be but slightly marked.

4. Asthma dyspepticum, in which the peculiar type of breathing is the most marked symptom.

The symptoms of intoxication do not always form the climax of a period of dyspepsia. A chronic intoxication may develop, resulting in what Finklestein calls decomposition, better known as marasmus or infantile atrophy. The symptom-complex characteristic of alimentary intoxication has usually been referred to bacterial decomposition of the food and absorption of toxins, or to bacterial infection, notwithstanding the frequent want of pathologic proof for the latter in many fatal cases.

Before discussing this feature, it may be well to establish tenable grounds for the assumption of an alimentary intoxication.

This condition is never seen developing in the healthy infant at the breast whose nursing is properly regulated. It is, however, not infrequently seen developing in a poorly nourished infant at the breast whose feeding is not properly regulated. Its usual subject is the artificially fed infant suffering with some disturbance of nutrition.

The status of nutrition of the infant plays the important rôle in this matter, and the more seriously it is affected the closer it approaches the stage of decomposition, the more serious and irreparable is the damage caused by intoxication. It is this nutritional disturbance of the child which renders possible the precipitation of a period of intoxication by dietetic errors, the latter acting merely as the exciting cause.

The action of the food on the infant with relation to development of toxic symptoms can readily be followed in artificially fed infants, when under complete control for observation and study. Intolerant increases in the quantity of diet or of individual constituents will be found to commence a period of dyspepsia, which latter, as above stated, can only be followed accurately by daily weighing and observation of temperature. The temperature will show daily subfebrile fluctuations, which, though slight, are significant, and the child, instead of gaining normally, will stand still or even lose.

This dyspeptic stage may be terminated by lessening certain constituents of the food, such as carbohydrates or fats, and in other instances by lessening the total food quantity. Lack of interference in the matter of an increase in food at this time will precipitate, sooner or later, the intoxication. And exactly at the time when the catastrophe of intoxication develops, the most convincing argument of the influence of food in the production of alimentary intoxication becomes evident. If food is withdrawn entirely, and water alone is allowed, within twenty-four hours, the temperature drops to normal, the weight loss ceases, the mental condition clears up, glycosuria disappears, and the most desperate clinical picture is converted into one of hopefulness. It might be contended, however, that this is not necessarily convincing, as it might be assumed that ridding the intestinal tract of its contents and not the withdrawal of food, is responsible for the drop in temperature. I think it will be conceded that if the temperature remains normal under institution of proper treatment with relation to food from the time of this first drop, and this can be demonstrated, it, at least, could not have been an inflammatory process that gave rise to the first jump in temperature.

If a bacterial decomposition of the food were responsible, this would have occurred in the albumin of the food, and we would have an alkaline stool, while the stool in the intoxication is acid; on the other hand, were it alkaline, this decomposition could just as well have occurred in the bowel secretion.

It is well, here, to consider the reaction of the infant to food and food constituents that can be noted at this time.

As already stated, if, at the height of intoxication, the food is entirely withdrawn and water substituted, the temperature will drop to normal and can be maintained there if proper treatment, which will subsequently be considered, is followed. If, after the temperature has been normal, whether it be for a few hours, twenty-four hours or longer, the former diet is resumed, even in small quantities (barring certain instances that will later be mentioned), shortly thereafter the temperature will begin to rise, and if the diet is continued, in a day or two a relapse of the intoxication has developed with all its symptoms, including glycosuria. If, now, the food is withdrawn, the same sudden drop in temperature and improvement of symptoms will be observed. It might be claimed that there was a reinfection, but this change occurs under the most careful precautions for sterilizing the food, and the reaction in the infant occurs too rapidly to have been referred to bacterial infection or decomposition of food. On the other hand, no one has been able to demonstrate poisonous toxins in the bowel contents in these cases, and if a reinfection had occurred, it would not subside on withdrawal of food.

The relation of the food constituents to the infant's condition during the stage of de-intoxication is interesting. Quite contrary to expectations, the casein seems to act as an inert food during this period. It has been found that casein, precipitated from fat-free milk, and broken up, can be given mixed with the water the infant receives and his convalescence will proceed as though he were receiving only water. Quite the opposite is observed with the fats and carbohydrates.

Fat given during the attack is disastrous, causing the condition to grow worse at once. Fats are not only deleterious at this time, but also prior to intoxication, when an increase in this constituent is not infrequently responsible for precipitating the acute attack.

The rôle of the carbohydrates is especially important in starting the disturbance leading up to intoxication, and during the intoxication, if given, they will cause a persistence of the symptoms, often leading to a fatal termination.

It is a matter of experience that some children, with so-called "bowel infections," do not tolerate whey well after they have been tided over an apparently severe attack by the withdrawal of food. This formerly was attributed to the residual proteids in the whey, following the Biedert teaching of attributing almost everything harmful in milk to proteids. One can observe this same result when the infant is given milk sugar solution instead of whey, indicating that the carbohydrates are in all probability the responsible factor. Such misleading views concerning proteids have been responsible for the long discussions on intoxications, which have been inadvertently referred to as infections and reinfections, but which might have been cut short by proper diet.

It was long ago observed by Wiederhoffer that some of these children, when placed on the breast, instead of im-

proving, became worse and died. On the other hand, there are a certain number of infants who will slowly improve on the breast, and it is here that the question of the previous condition of the child plays such an important rôle in causation and in convalescence from alimentary intoxication. If the infant has suffered seriously before the development of the intoxication he may not show the sudden favorable reaction on the withdrawal of food, and only after a few days show a normal temperature and freedom from serious symptoms. Again, a certain number of cases are so overwhelmed that they proceed immediately to a fatal termination.

This condition of the infant is a very important factor and depending on it all shades of reaction of the organism to intoxication may be observed. While one infant may develop a relapse in convalescence from slight errors in dietetic management, another may, after the subsidence of intoxication symptoms, be able to take almost the same quota of nourishment as before the attack. In some cases there may be present a severe infectious complication, causing fever and preventing convalescence.

From the above considerations it would seem evident that we must seek the cause of this condition not in bacterial infections or food decompositions, not in toxins supposed to be contained in milk, as this condition may occur under the most careful preparation of food, but in an intolerable quota of nourishment, either quantitatively, qualitatively or both, supplied to an infant already suffering from nutritional disturbance, resulting in an abnormal destiny of the nourishment in intermediary metabolism. That some grave perversion of metabolism exists would appear from the presence of glycosuria at the height of intoxication.

While it presents clinically, in its severest form, a picture similar to that of the uremia or diabetic coma, there are some objections to the acidosis theory, which I will not discuss now.

Before considering the treatment I wish to report a case in my service at the Cook County Hospital:

This child of four months was brought into the hospital without any history, except that it had been fed on condensed milk, and had been seized with a convulsion the day it was received. The infant was soporose and in a state of collapse, with livid skin; emaciated; temperature 103 F.; pulse rapid; breathing accelerated; bowel movements brownish in color and of a thin, batter-like consistence.

The treatment employed in this case was as follows: Salt solution hypodermically, to combat collapse and low blood pressure. Water only by mouth. There was a drop in the temperature by the following morning, and the temperature remained at this level until the child was placed on a diet composed of milk, whey and water, when a relapse occurred with all the symptoms of intoxication repeated. Withdrawal of the milk given in the mixture resulted in a considerable drop in the temperature, although it still continued above normal, and symptoms of intoxication persisted. Suspension of the diet, and substitution of barley water, caused an immediate drop to normal and disappearance of symptoms.

The indications for treatment in alimentary intoxication consist in combating the collapse, cutting short the intoxication, and slowly bringing the child back to a diet commensurate with its caloric requirements. The first indication may be met by hypodermoclysis of salt solution, using 50 to 100 c.c., and repeating as is deemed necessary. The second indication is met by withdrawing the food entirely, and allowing water only for twenty-four hours. With the subsidence of all symptoms, begin feeding as follows: As exceedingly small quantities of fat are injurious, begin with centrifugated breast milk, if possible, given in teaspoonful doses, five times a day, or an equal quantity of buttermilk, to which neither sugar nor meal has been added; or if this is not at hand, fat-free milk may be used. As a diluent, and to supply the liquid necessary, water and a thin cereal gruel may be used or given separately.

After an interval of twenty-four hours, provided the above has been well tolerated, without any evidence of return of the intoxication, the separate quantities of milk may be increased to two teaspoonfuls, which, after two or three days may, under the circumstances mentioned, be doubled, and so on, until they are gradually brought to a diet (free of fat in artificially fed infants) that will temporarily meet their needs from a caloric standpoint, having added, in the meantime, with their increased tolerance of the buttermilk (where employed), 30 grams of sugar, preferably maltose, and 15 grams of flour to each liter of buttermilk while boiling.

The child should not be kept on the buttermilk diet longer than six weeks. After this time whole milk dilutions will be necessary to meet its needs. In case the infant was at the breast, after four or five days of careful feeding, with contrifugated breast milk, it may be returned to the breast, the amount of nurse being carefully controlled.

During the treatment slight relapses are common where the food toleration has been passed. More effective and permanent results are accomplished by proceeding slowly, allowing forty-eight hours for judging the effect of a food increase before again adding to it.

Cathartics and intestinal antiseptics are unnecessary, unless constipation exists, as sometimes occurs in the soporose form, when a laxative is indicated.

There is little doubt that injudicious dieting and constant or frequent administration of laxatives in convalescence are responsible for the persistence of varying temperature rises in the first instance, and slimy green stools in the second instance, which are wrongly interpreted as manifestations of an entero-colonic catarrh, or a bowel infection with repeated reinfections, etc.

RESTORATION OF THE PELVIC FLOOR.*

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The lesions resulting from labor involve, primarily, the pelvic floor and the sphincter apparatus to a varying degree, while, secondarily, there result certain displacements of the pelvic organs directly dependent on the weakened pelvic floor. The manifold operations for repair of these injuries of the pelvic floor have depended largely on the originators' varying conceptions of the anatomy and physiology of these structures. The reason for so many different types of operation undoubtedly depends on insufficient knowledge of the anatomy. One naturally would suppose at the present time that this subject had been completely worked out, but a careful examination of the works of various anatomists shows that there is very little agreement as to the exact structure of the female pelvic floor. In a general way the works of the English and American anatomists have been characterized by insufficiency of detail in the treatment of the female pelvic floor, notwithstanding the fact that their descriptions of this region in the male is usually very complete and satisfactory. To this general statement there are, of course, notable exceptions, such as the article in Deaver's "Surgical Anatomy" and Peter

* Read before the Medical Association of the Southwest, Oct. 9, 1907.

Thompson's section in "Morris' Anatomy," which are highly recommended for study. On the other hand, the works of the German and French anatomists are especially complete and satisfactory. We would especially recommend Luschka,[1] Henle,[2] Gegenbaur,[3] Waldeyer,[4] and Poirier and Charpy.[5] During the past five years I have been continuously at work investigating the structure of the female pelvic floor. I have examined many subjects and dissected them carefully, and as a result of this dissecting-room experience, together with my clinical experience, I feel that the following descriptions of the normal and torn pelvic floor are accurate. The drawings (Figs. 1 to 7) were made by Dr. E. L. Parmenter from my own dissections and under my supervision.

ANATOMY OF THE PELVIC FLOOR IN THE FEMALE.

The pelvic floor consists of two segments or planes. The superior plane is known as the pelvic diaphragm and is composed of the levator ani muscle and two layers of fascia; the upper layer of fascia is the recto-vesical fascia or fascia diaphragmatis pelvis superior; the lower layer of fascia is the anal fascia or fascia diaphragmatis pelvis inferior. The inferior plane is limited to the urethral triangle and is known as the urogenital diaphragm or trigone. It is composed of the musculus trigoni urogenitalis and two layers of fascia. The upper layer is the superior layer of the triangular ligament or fascia diaphragmatis urogenitalis superior. The inferior layer of fascia is the inferior layer of the triangular ligament or fascia diaphragmatis urogenitalis inferior.

The levator ani is a paired muscle which is divided for description into an anterior portion known as the puborectalis and a posterior portion known as the iliococcygeus. The puborectalis arises from the posterior face of the body of the pubic bone, being separated from its fellow of the opposite side by an interval of usually one inch. It forms a flat muscular bundle one inch wide, which passes downward and backward along the side of the vagina, where it divides into two portions. The innermost division, sometimes called the levator vaginæ, continues backward and downward until it reaches the posterior margin of the urogenital trigone, where it turns sharply downward and inward and forms a loop with similar fibers from the opposite side, in the space between the lower end of the vagina and the terminal portion of the anal canal. As this division turns toward the median line it gives off a thick bundle of fibers (Fig. 1) from its outer side, which runs into the outer cornua of the sphincter. Some of the latter fibers are continuous in the anterior extremity of the sphincter to the median line. The outer division of the puborectalis turns backward, and passing wholly above the sphincter ani, joins similar fibers from the opposite side behind the anal canal at the level of the perineal flexure.

The iliococcygeus arises in a continuous line from the arcus tendineum musculus levator ani and from the inner surface of the spine of the ischium. The anterior fibers pass backward and somewhat downward, and at their termination they run between the external and internal sphincters to reach the fibrous tissues surrounding the anus. Some of these fibers, however, terminate by running into the sphincter ani. The remaining fibers of the iliococcygeus run backward and are inserted into the anococcygeal ligament and sides of the coccyx. The muscle has been described as consisting of two layers, which is only partly true. The outer band of the puborectalis runs backward, lying external to the anterior fibers of the iliococcygeus, thus making two layers at this point. The remaining portion of the muscle, however, is seen to be composed of a single layer. The fascia diaphragmatis pelvis superior and inferior or recto-vesical and anal fasciæ cover the superior and inferior surfaces of the muscle. They are derived from the obturator fascia and form a fibrous sheath for the muscle, being continuous at the inner margin of the puborectalis.

The pelvic diaphragm can best be described as a musculofibrous plate, indicating the predominance of muscular action. The puborectalis draws the vagina and the rectum forward and compresses them laterally. The anal canal is reduced to an anteroposterior slit by the clamp-like action of the puborectalis. The vagina at the level of the levator is concave from side to side, the concavity being toward the pubes. From the fact that the loop back of the anal canal encircles it, the levator acts as a powerful sphincter. The fibers inserted into the sphincter enable the levator to lift up the anus over the fecal mass in defecation and perform a similar function in parturition. The muscle as a whole supports all the pelvic structures.

The inferior layer of the triangular ligament is homologous with the obturator membrane and is really a part of the ligamentous wall of the pelvis. It is triangular in shape and extends completely across the pelvic arch from the anterior margins of the ischial tuberosities to near the symphysis pubis, leaving a narrow interval for the passage of the dorsal vein of the clitoris. The superior layer of the triangular ligament corresponds to the inferior in form and is derived from the obturator fascia. It fuses with the inferior layer at its base and apex. The compartment between these two layers is occupied by a thin sheet of muscle, which is divided for description into an anterior portion known as the compressor urethræ and a posterior portion known as the transversus perinei profundus which is inserted into the perineal center. These three layers form a strong plane which is attached to the bones of the pelvic outlet and is perforated by the urethra and vagina.

The urogenital trigone can be described as a fibromuscular plate placed beneath the puborectalis. It runs parallel with, and serves as a support to, the puborectalis. It is capable of supporting a great deal of intra-abdominal pressure. The muscular layer is of some importance in assisting the fascia by acting as a tensor fasciæ.

When we examine the pelvic floor after removing the pelvic organs we see that it resembles a funnel whose sides and posterior walls slope downward toward the anus which is the lowest point. Anteriorly the pelvic floor is nearly horizontal in the erect posture, the inclination downward being very slight. As a result of this conformation we can readily see that intra-abdominal pressure is deflected forward by the sloping surface of the posterior portion of the floor and inward by the sloping lateral surfaces so that it would fall on the plane surface of the anterior portion of the pelvic diaphragm in the middle line. We have seen that the interval between the puborectalis extends from the pubic arch backward behind the vagina. Furthermore, the posterior attachment of the puborectalis is not fixed so that this portion of the pelvic diaphragm operates under a decided mechanical disadvantage. Beneath the anterior plane surface of the pelvic diaphragm the urogenital trigone stretches across the pubic arch as a fibromuscular plate of great strength supporting the pubo-

1. Anatomie des Menschen, 1863.
2. Anatomie des Menschen, 1866.
3. Anatomie des Menschen, 1890.
4. Das Becken, 1889.
5. Traité d'Anatomie Humaine, v, 1901.

rectalis, which plays back and forth on it during action and quickly becomes stretched when the former is torn.

Were it not for the urogenital trigone, sagging of the pelvic floor would be the normal condition of woman. Since the child must pass through the opening in this comparatively unyielding structure its laceration is of frequent occurrence and we can not, therefore, emphasize too strongly its importance in the surgical repair of injuries to the pelvic floor. The pelvic floor is perforated in woman by the rectum, vagina and urethra. Each of these three canals is closely connected with the floor in its passage through it. The rectum and vagina are provided with a sphincter below while the external sphincter of the female urethra is located in the urogenital trigone.

The sphincter apparatus is derived from the primitive sphincter cloacæ, which also gives rise to the superficial transversus perinei, the ischiocavernosus and transversus perinei profundus, in addition to the sphincter ani and externus, bulbocavernosus and compressor urethræ. The sphincter ani is a very important muscle, many of the fibers of the levator are inserted into and interwoven with it. It is through these fibers that the levator is able to and does elevate the floor of the pelvis. The external sphincter ani is one inch deep and encircles the anal canal. It consists of three strata:

1. A subcutaneous portion which decussates in front of and behind the anus.

2. The superficial sphincter ani arises by means of a fibrous aponeurosis from the last bone of the coccyx and from the anococcygeal raphé. It passes forward and divides into two halves, which encircle the anal canal. Anteriorly it is connected with the bulbocavernosus and some fibers of the levator ani. The bulbocavernosus is superficial to the levator ani. These two muscles are attached on either side anteriorly, and by the intermingling of these fibers, which takes place at this point, a sort of cornu is produced so that the entire muscle is much broader in front than behind. I have named the insertions or attachments of the bulbocavernosus and the levator ani to the sphincter, the cornu of the sphincter ani.

3. The deep external sphincter ani forms an annular band closely connected with the levator ani. It is not connected with the coccyx. In many cases the fibers of the deep division pass over to the opposite side in front of the anus and are connected to the ascending ramus of the ischium representing the superficial transverse perinei. The bulbocavernosus arises posteriorly from the perineal center, where it mingles with the fibers of the external sphincter and transverse perinei superficialis. It overlies the vaginal bulbs and is attached anteriorly to the pubes, the urogenital trigone and the clitoris. The transversus perinei is present in 30 per cent. of adult females, and when present usually consists of a few fibers. It is really a prolongation of the deep layer of the sphincter ani.

INJURY TO THE PELVIC FLOOR.

The injuries to the pelvic floor depend on disproportion existing between the size of the passage and the passenger, and the site and extent of the tear depend on the comparative strength of the structures involved. The superficial injury to the vaginal wall is, when extensive, always to be found in the sulci on one or both sides, and never involves the posterior vaginal column, a point worthy of consideration in repairing these injuries. The reason for this is the extreme weakness of the vaginal wall lateralward from the column. Opinions vary in regard to the injuries to the levator. My observation of recent tears and my dissection of old ones at operations and in the dissecting room has been that the levator vaginæ is torn in the median line down to the rectal wall and the attachment to the sphincter ani is ruptured, usually to a greater extent on one side, although the fibers inserted into the cornua of the sphincter are torn on both sides. It seems reasonable to expect that this would be the case, since these fibers are exposed equally with the lateral thick portions of the muscle to the strain resulting from the passage of the child. It is a question of resistance, and the lateral mass of the puborectalis is stronger that the levator vaginæ.

The explanation of complete tears is found in the firm attachment between the levators and the cornu of the sphincter ani in certain cases. In these cases, after laceration of the levator loop, the pressure falls on the sphincter and it gives away. The superficial muscles are torn in various ways. Usually the skin tear is slightly to the right or left of the median line, and the bulbocavernosus and transverse perinei (when it exists) is torn in the same line. A constant lesion is found, viz.: tearing of the attachment of the anterior extremity of the sphincter from the bulbocavernosus, allowing the sphincter to retract toward the coccyx (Fig. 2).

As a result of the laceration of the fibers of the levator attached to the sphincter the anal canal prolapses downward and is drawn backward by the sphincter, giving rise to the so-called rectocele. Injury to the urogenital trigone is very common and depends on the comparative inelasticity of this supporting structure. It is torn backward and separates into two portions. These two portions, however, retract very slightly, so that they can be found very easily when operating.

I would call attention to the great number of cases where the levator fibers, as well as the urogenital trigone, are torn down to the rectum, and yet the superficial perineal muscles are not torn. As a result of the separation of the levator down to the rectal wall this becomes the weakest portion of the pelvic diaphragm and, as Noble[6] has shown, the tendency is to become more and more stretched and relaxed by the intra-abdominal pressure, which is focussed at this point. In case there is an internal laceration of the levator fibers, without injury to the superficial structures, they will be found inefficient in holding up the pelvic structures, and we therefore have rectocele and cystocele occurring, notwithstanding that there seems, on superficial examination, to be a perfectly normal perineum. The diagnosis of internal separation is exceedingly easy if one is familiar with the topography of the levator and inserts one finger in the rectum and one in the vagina and palpates the intervening tissues.

FUNDAMENTAL PRINCIPLES.

The sections on anatomy of the normal and torn pelvic floor have been introduced as a basis for the contention that the principles which underlie the operations for injury to the pelvic floor are precisely the same as those which underlie operations for ventral hernia. To-day surgeons the world over are agreed that the only rational method of operation for ventral hernia is to suture the various layers of the abdominal wall together in their original position by means of buried sutures. I believe the day will come when operations on the pelvic floor will be performed in a similar manner by all surgeons. If the pelvic diaphragm and urogenital trigone

6. Amer. Gyn., March, 1903.

make up the floor of the female pelvis, and if injury to these structures gives rise to relaxed vaginal outlet with its accompanying prolapse of the pelvic organs, the rational method of treating this condition would be by demonstration of these anatomic structures and bringing them together accurately by buried sutures.

When this has been properly done the apparent redundance of the vaginal wall disappears completely. Resection operations are therefore faulty in conception. The anatomic type of operation is the only one worthy of consideration. Buried sutures cause no trouble and enable us to suture the different planes separately. We should remember that the puborectalis plays back and forth on the urogenital trigone, therefore through and through sutures including the trigone as well as the muscle would interfere with the free play of the muscle above. Through and through sutures should be discarded and layer sutures adopted in all cases.

The operations that have been developed on an anatomic basis are few, but the operations that resect and narrow the dilated outlet are too numerous to mention. Henry O. Marcy[7] has for many years given this subject much attention. He was the first surgeon to use buried sutures in perineal operations. Albert Goldspohn[8] wrote a very important article on the suturing of the levators, and M. L. Harris[9] recommended and practiced excision of a piece and subsequent suture of the puborectales, thus shortening them. Other articles were written by Noble[6] and G. R. Holden[10] along the lines suggested by Marcy and Goldspohn. A study of these articles will show that great stress was laid on the importance of the puborectalis, while little emphasis was placed on the suturing of the urogenital trigone and no mention was made of reattaching the sphincter ani.

THE AUTHOR'S OPERATION.

Tenaculum forceps are placed on each side of the vaginal outlet about the level of the carunculæ, and lateral traction is made which develops a prominent fold. If the skin of the perineum is not torn no mucous membrane will be visible, but if it has been torn badly the outer surface at the upper part will be mucous membrane which turns out as a result of traction. At all events the distance from the top of the fold to the anus will be 1½ inches. This fold is now incised in the median line from the top downward until the fibers of the sphincter are clearly exposed below. This incision goes at once entirely through the skin and Colles' fascia below and the vaginal wall above if it has been everted. A few touches of the knife demonstrate the deep layer of the external sphincter at the lower part of the wound. The knife is now laid aside and no further incision is made.

A pair of blunt-pointed scissors are now thrust under the lateral vaginal wall in a direction upward and inward in the long axis of the vagina for one inch (Fig. 3). The blades are then separated, raising the vaginal wall from its bed. The separation of the vaginal wall extends from the middle of the side of the vagina down to the rectum. On looking into the wound between the blades of the scissors one can see the puborectalis in its sheath. This process is now repeated on the opposite side. No attempt is made to separate the posterior vaginal column from the anterior rectal wall. It is never separated by the injury and it is unnecessary in operating in order to get room to work. Furthermore, this is the cause of oozing in the flap operations.

The puborectalis is now recognized on the left side by palpation, and a curved needle 2 cm. (¾ in.) long, held in a needle-holder, is made to penetrate it from within outward, being guided by the index finger of the left hand (Fig. 4). When the needle is felt to pick up the muscle it is used as a hook to bring the muscle into view. The suture is now pulled through and its end held by an assistant. The needle is then transferred to the other end of the suture and the right puborectalis penetrated from within outward in a similar manner. This suture should be placed about three-fourths of an inch in front of the anus in ordinary cases, but not so near the posterior wall of the vagina as to require force to bring the puborectales together. If this is the case it should be placed a little nearer the anus (Fig. 5).

The first suture, having been placed but not tied, is used as a traction suture to aid in passing the lower one, which can easily be passed from without inward. When this suture has emerged from the puborectalis on the right side it is carried under the sphincter on the right side one centimeter from the median line and caused to penetrate it from within outward. The needle is now transferred to the other end of the suture and carried through the sphincter from within outward one centimeter to the left of the median line. This suture is now pulled up and tied, the knot being on the outer surface of the sphincter.

This suture approximates the lower ends of the puborectales together, pulls the sphincter toward the symphysis and up into the pelvis a variable distance, depending on the amount of displacement. The suture which was first placed through the puborectales is now tied. In introducing the first suture the needle is carried from within outward to avoid the trigone and to locate the muscle easily. One can not possibly miss the muscle by following this plan, since it is the only structure to be found in the pelvis at this point. When the muscle sutures are tied the anus ascends into the pelvis, the wound becomes shallow and its edges approach each other. The urogenital trigone is clearly visible ready for suturing (Fig. 6). It is sutured from below upward. I use a continuous suture of formaldehyd catgut.

After two or three turns of the suture have been introduced the vaginal wall must be separated at its upper part from the trigone by blunt dissection and another stitch introduced. This last step is very important, as it restores the vulvar orifice. Neglect to close the upper part of the trigone results in a slight gaping of the vulva. When the trigone has been approximated to the proper extent the suture is then reversed and brought back from above downward as a subcuticular suture approximating the mucous membrane and afterward the skin and is finally tied to the free end below, thus burying the knot beneath the skin (Fig. 7).

By following this method of suturing the wound has invariably healed throughout by first intention. The after-treatment consists in keeping the wound dry by means of subiodid of bismuth and the application of a sterile vulvar pad. I have performed the operation ninety-six times, and my colleague, Dr. Jabez N. Jackson has carried out the above technic in more than fifty cases. The functional results of this operation have been excellent. Those patients operated on as long ago as 1904 are just as perfect as they were on leaving the hospital.

425 Argyle Building.

7. Amer. Jour. Obstet., 1889; also THE JOURNAL A. M. A., xii, 349; ibid., xii, 1061.
8. Medicine, 1897.
9. THE JOURNAL A. M. A., Dec. 9, 1899.
10. Jour. Obstet., October, 1905.

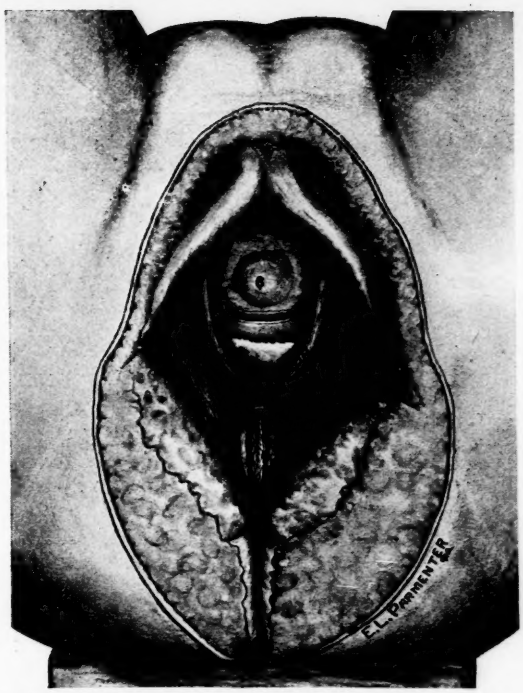

Fig. 1.—Author's dissection of nulliparous woman, 23 years old: seen from below. Note the characteristic thickening of the puborectalis (P R) and the intimate connection between the loop and the sphincter ani externus.

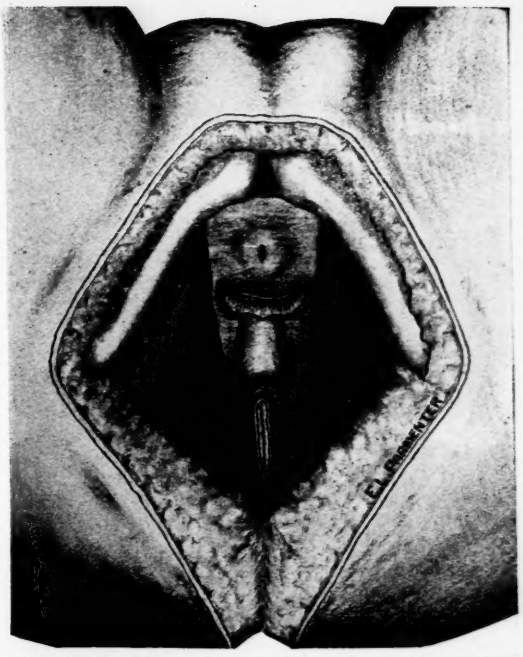

Fig. 2.—Dissection of a woman about 60 years old showing the characteristic separation of the anterior extremity of the sphincter from the puborectalis. The anterior extremity of the sphincter ani in this case was more than an inch below the level of the pelvic diaphragm.

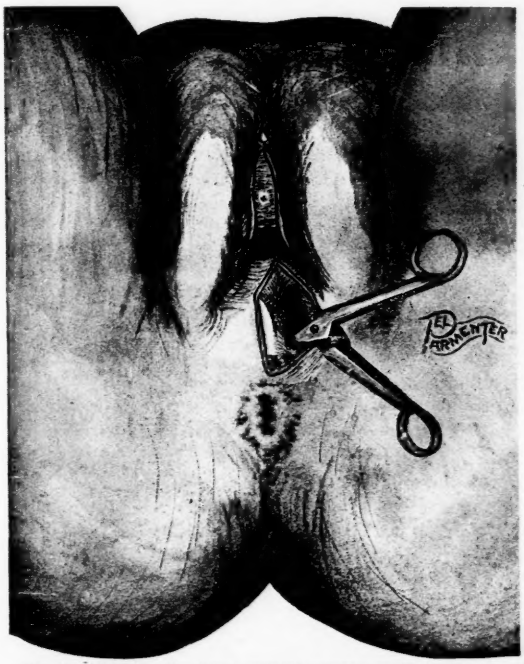

Fig. 3.—Showing the blunt pointed scissors pushed upward and inward beneath the lateral vaginal wall, for one inch. The blades are separated, as shown, and the operator can then look into the wound and see the puborectalis clearly. This process is then repeated on the opposite side. The transverse band of fibers in the lower part of the wound is the anterior extremity of the external sphincter ani.

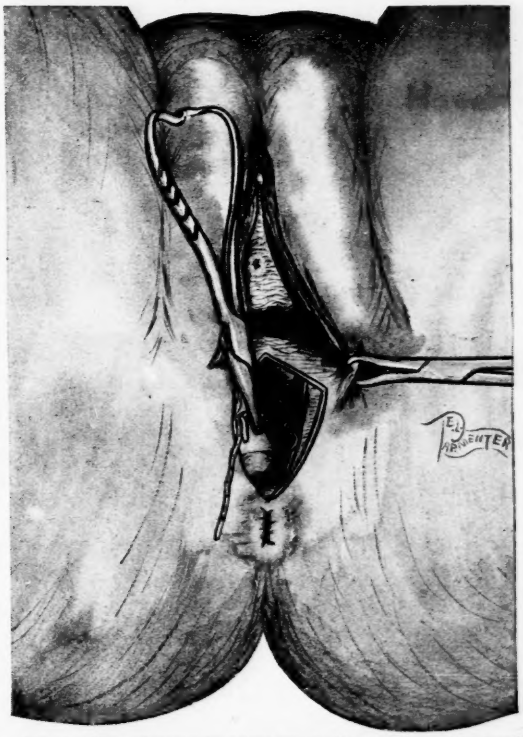

Fig. 4.—The puborectalis picked up by the needle and the needle used as a tractor to draw the muscle toward the median line so that the needle will not also include the triangular ligament which is seen lying superficial to it. When this thread has been drawn through, the needle is transferred to the opposite end of the suture and the muscle of the opposite side is treated in the same way, the needle passing from within outward.

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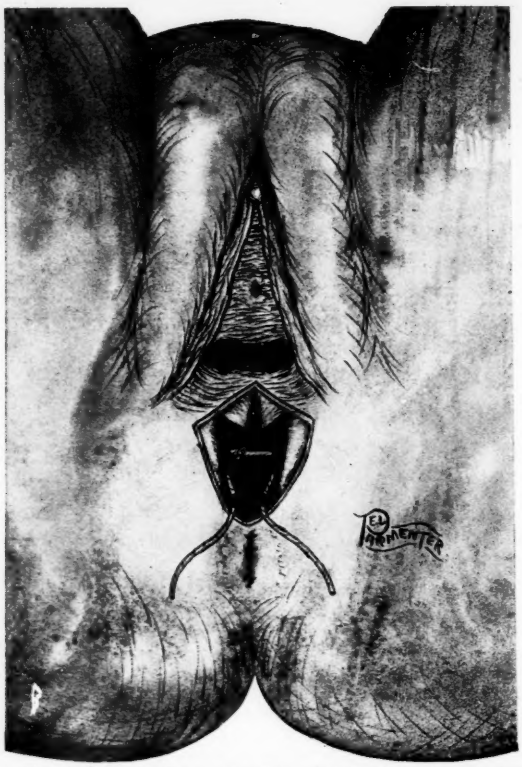

Fig. 5.—Showing the upper suture placed and the lower suture ready for tying. When this suture is tied it draws the anus forward and upward into the pelvis.

Fig. 6.—Showing the suture inserted into the urogenital trigone ready for tying. While this illustration shows interrupted sutures, it is better to suture from below upward by a continuous suture. When the upper margin of the trigonum has been reached, the same suture is used to close the mucous membrane and skin from above downward by the subcutaneous method.

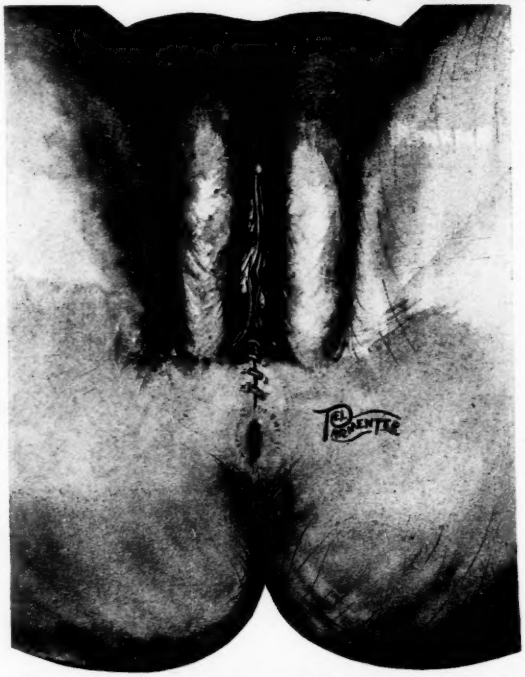

Fig. 7.—Showing the appearance of the perineum at the close of the operation. The author prefers a subcuticular suture in place of the through-and-through suture shown in this figure.

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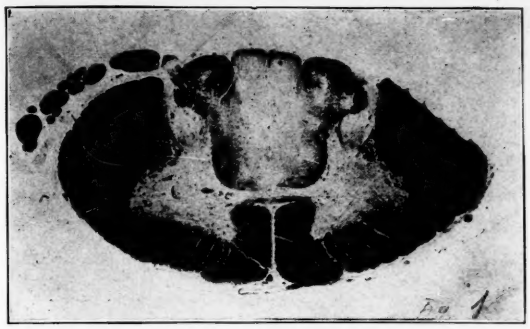

Fig. 1.—(Case 4) Cervical enlargement. Degeneration principally in Goll's and partly in Burdach's tracts.

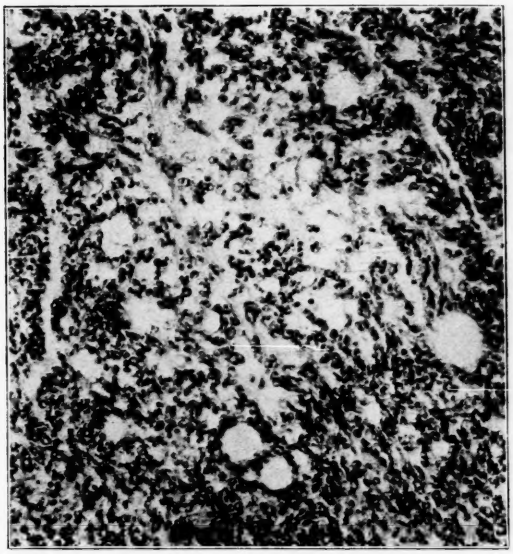

Fig. 2.—(Case 4) Showing a vacuolated, partially degenerated area.

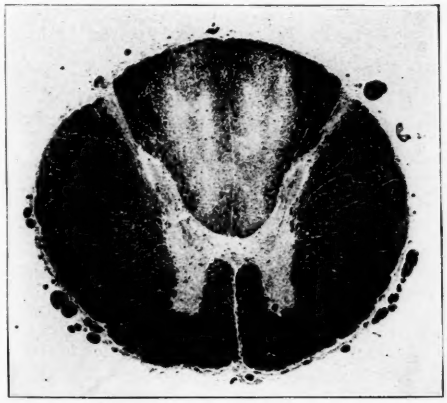

Fig. 3.—(Case 4) Degenerated areas limited to posterior columns.

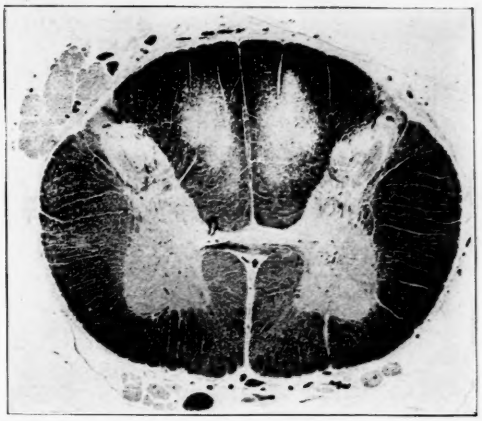

Fig. 4.—(Case 4) Lumbar cord. Degeneration in posterior columns diminishing.

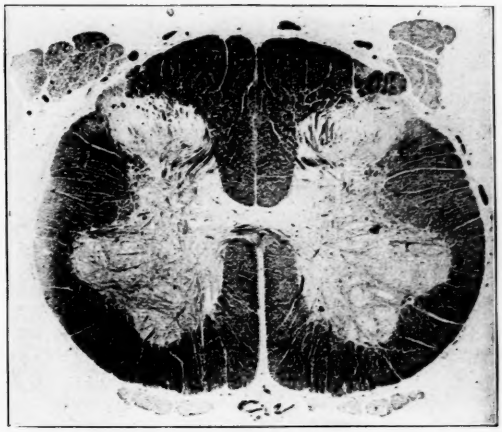

Fig. 5.—(Case 4) Lumbosacral cord. No degeneration in posterior columns. Slight degeneration in lateral tracts.

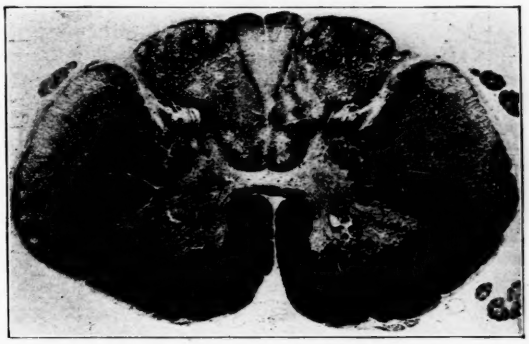

Fig. 6.—(Case 10) Cervical cord showing diffuse degeneration in posterior columns and lateral tracts.

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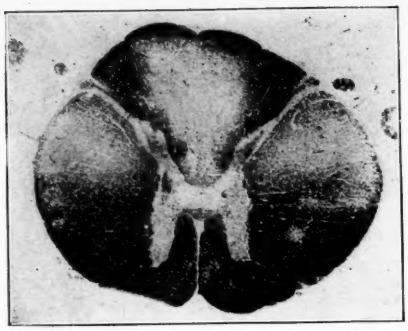

Fig. 7.—(Case 10) Dorsal cord showing a typical picture of posterolateral degeneration.

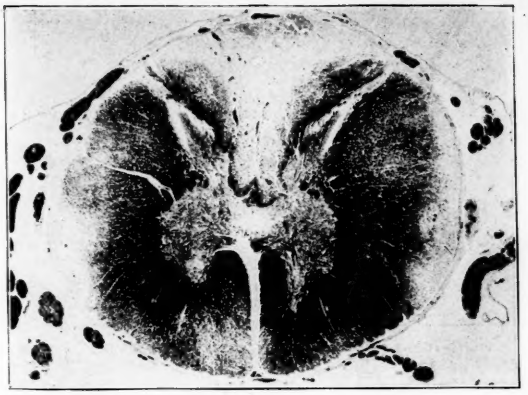

Fig. 10.—(Case 16) Low cervical cord. Diffuse degeneration most extensive in posterior columns.

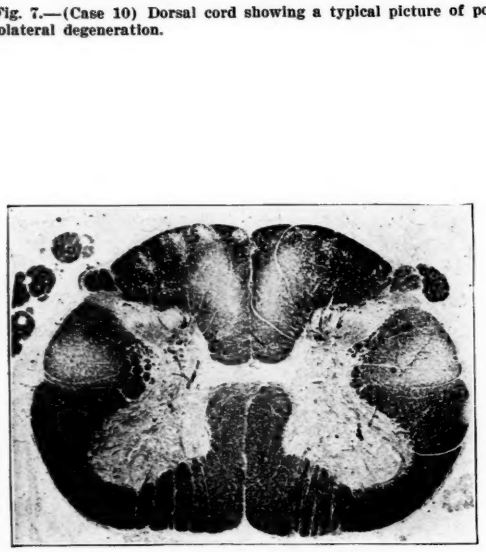

Fig. 8.—(Case 10) Lumbar cord. Areas of degeneration in posterolateral tracts not as large as in previous section.

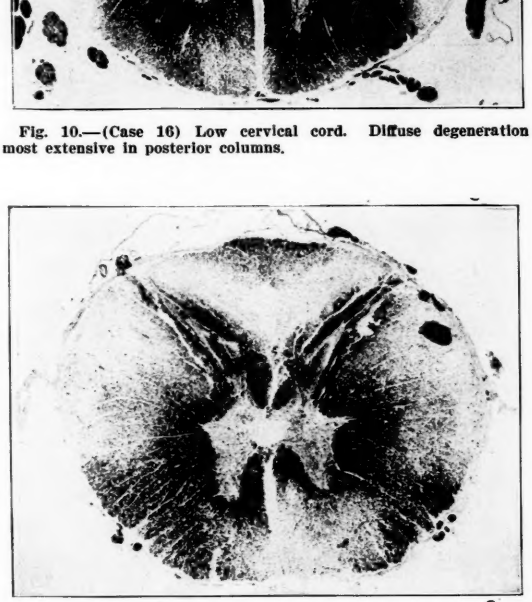

Fig. 11.—(Case 16) Dorsal cord. Diffuse degeneration in nearly all tracts.

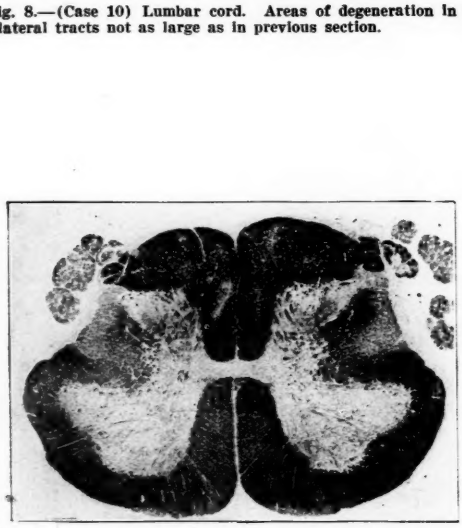

Fig. 9.—(Case 10) Upper sacral cord. Slight degeneration in posterior column, somewhat more extensive in lateral tracts.

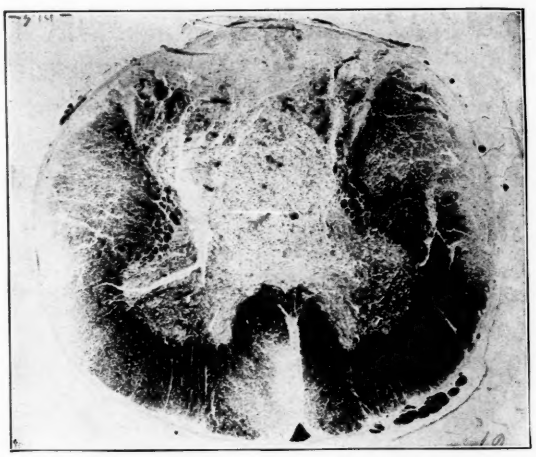

Fig. 12.—(Case 16) Lumbar cord. Very extensive degeneration.

ILLUSTRATING ARTICLE BY JULIUS GRINKER.

SUBACUTE COMBINED CORD DEGENERATION, WITH REPORT OF CASES.*

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CHICAGO.

Although writers have previously reported cases that appear to belong to this disease, our first definite knowledge of it began in 1887, when Lichtheim[1] reported three cases of pernicious anemia with symptoms indicating spinal cord involvement. His pupil, Minnich,[2] followed with a series of cases, in some of which he was able to demonstrate the cord changes in the posterior and lateral tracts. Then came the excellent reports of Von Noorden,[3] Eisenlohr,[4] Nonne,[5] Bowman,[6] James Taylor,[7] Burr,[8] Michell Clark,[9] Risien Russell[10] and others, who described a similar pathology in the cords of those dead from pernicious anemia, secondary anemia and from exhausting disease without anemia. To Putnam[11] of Boston belongs the credit of having been the first to point out that the cord lesions which had been often described in connection with pernicious anemia are in no wise characteristic of that disease, but occur in other conditions of ill health with or without anemia. Since then were published Dana's[12] article on the same subject, an exhaustive monograph by Russell, Batten and Collier,[13] articles by E. W. Taylor,[14] Putnam and Taylor,[15] Robert J. Edes,[16] Billings,[17] Burr and McCarthy,[18] E. W. Taylor and G. A. Waterman,[19] Michell Clark[20] and many others who have enriched the literature with additional proofs confirming the observations of the earlier authors. The greater number of these publications have appeared in specialist journals not readily accessible to the general practitioner; hence this paper.

The disease has been described under many names, such as subacute combined sclerosis; subacute ataxic paralysis; combined cord degeneration; combined sclerosis of the Lichtheim-Putnam-Dana type, diffuse spinal cord degeneration, subacute combined cord degeneration. In common with recent writers I prefer the last name, because it very nearly defines the disease and has the advantage of being non-committal as regards the diffuse or systemic character of the cord changes.

SYMPTOMS.

The principal symptoms can be divided into (a) sensory symptoms due to posterior tract degeneration, and (b) motor symptoms, consisting of weakness and spasticity in the early stages, due to pyramidal tract degeneration, which is followed in the terminal stage by flaccid paralysis, owing to supervening anterior horn degeneration.

One of the earliest manifestations of the disease is impairment of subjective sensation in the lower extremities. The patient most often complains of a tingling or numbness or prickling in the feet or calves of the legs, frequently combined with a dull ache in the lower spine. As these uncomfortable sensations have in many cases been preceded by some other disease, or there may have been impaired vitality from whatever cause, the patient usually attributes his subjective sensory disorders to the antecedent condition. In other cases a tired feeling or tightness and stiffness about the legs may be the initial symptoms. Whichever symptoms may have appeared first, ataxia or the lack of power to co-ordinate properly the muscles in standing and walking soon follows. In general terms one might say that motor power is at first but slightly affected, perhaps nothing more has been noted than a tendency to fatigue after slight exertion, and this was regarded as an expression of neurasthenia and treated as such. On the other hand, the distress occasioned by paresthesia, especially from feelings of intense cold or of waves of heat, may be severe and give rise to bitter complaints.

It is important to remember that subjective sensory symptoms with slight inco-ordination may appear early and remain a long time before objective signs of sensory disturbance can be elicited. While the paresthesia is at first generally confined to the lower extremities, sooner or later the arms and fingers become similarly affected; the patients then complain of inability to use the hands and fingers for "fine" work. Exceptionally the disease begins in the arms and somewhat later extends to the legs and feet. In rare cases the numbness and tingling is first felt in the tongue, giving the sensation of a foreign body; even the penis has occasionally been the seat of these perverted sensations. Other of the sensory symptoms are the so-called girdle sensation, that is, a feeling of constriction about the trunk, and neuralgiform attacks—root symptoms—which are not infrequently found in this disease, although they are more common in other affections of the spinal cord.

The superficial reflexes do not show characteristic findings and the light reflex is usually normal, although a sluggish response to light has been reported in a few cases. The tendon reflexes are almost invariably found exaggerated quite early in the disease, and ankle clonus, Babinski's toe sign, Oppenheim's foot sign and Gordon's paradoxic reflex are common accompaniments of the pathologically exaggerated deep reflexes. Gradually the lower extremities become spastic and walking becomes very irksome because of inco-ordination and spasticity, two symptoms which have given the disease its name, "spastic ataxia." After a time, as the condition progresses, the patient is compelled to take to his bed which he seldom leaves afterward, because of the successive development of complete paraplegia. There will usually now be found various degrees of anesthesia, analgesia, thermoanesthesia and loss of muscle and joint sense affecting principally the lower portion of the body. Such patients have difficulty in locating their lower extremities, except when they are aided by vision. Sphincter disturbances, if they occur at all, are usually slight in degree and may consist in nothing more than a desire to urinate frequently, or there may be a moderate degree of constipation or diarrhea.

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907. A large portion of the article (Case histories 2, 3, 5, 6, 7, 8, 9, 11, 12, 14, 15 and 17) is omitted because of lack of space. The complete article appears in the Transactions of the Section and in the author's reprints.

1. Neurolog. Centrbl., 1887.
2. Neurolog. Centrbl., 1889.
3. Charité-Annal., 1891.
4. Deutsche med. Wochschr., 1892.
5. Archiv. f. Psychiat., 1893.
6. Brain, 1894.
7. Medico-Chirurg. Tran., 1895.
8. University Med. Mag., 1895.
9. British Med. Jour., 1897.
10. Lancet, 1898.
11. Jour. of Nerv. and Mental Dis., 1891.
12. Jour. of Nerv. and Mental Dis., 1899.
13. Brain, 1900.
14. Boston Med. and Surg. Jour., 1900.
15. Jour. of Nerv. and Mental Dis., 1901.
16. Boston Med. and Surg. Jour., 1901.
17. Chicago Med. Recorder, 1902.
18. Jour. of Nerv. and Mental Dis., 1903.
19. Boston Med. and Surg. Jour., 1903.
20. Brain, 1904.

The cranial nerves, with the exception of the optic nerve, are practically never affected in this disease; optic atrophy is but rarely seen. Nystagmoid movements have been observed; this symptom probably resulted from extreme weakness of ocular muscles.

Anemia is a common symptom in subacute combined cord degeneration; indeed, as has been stated, the first cases of this disease were invariably described in association with grave types of anemia. All varieties may occur, from the slight anemias ordinarily considered still within the range of normal to the most serious types of pernicious anemia, with high color index, nucleated reds and extreme poikilocytosis.

After a period varying from six months to six years, the patient rapidly passes into the terminal stage: the deep reflexes become abolished and sphincter paralysis appears. This stage is of short duration. If the patient is not carried off by some intercurrent complication, such as pneumonia, decubitus or cystitis, extreme emaciation with exhaustion usually closes the scene.

Russell, Batten and Collier,[13] in their excellent article on this subject, divide the disease into three stages. Their first stage is characterized principally by ataxia with slight spasticity; in the second stage there is increased spasticity, and in the third or terminal stage there are flaccidity and complete paraplegia with cachexia.

In agreement with most American observers, I believe the division into stages is of doubtful value, because not all cases present these stages and when present the passage from one to another is often very gradual.

The course of the disease varies from one and a half to five or more years and is progressively downward. Prolonged remissions have been observed which occurred either spontaneously or were the result of treatment, but I know of no recoveries in this disease.

The reported cases can be conveniently subdivided into three groups: 1, Those in which pernicious anemia was present from the beginning; 2, cases in which a grave type of anemia, not necessarily of the pernicious variety, was at some time associated with the disease and constituted an important sign; 3, cases in which the anemia, if present at all, was insignificant and constituted a minor symptom of the entire disease. Cases of the first group have been frequently described and are, therefore, best known. It is to the second and particularly the third, and least known, group of cases that I wish to direct special attention.* Though relatively more common, they are less often recognized than the cases presenting from the very beginning such a striking symptom-complex as pernicious anemia.

GROUP I.—The first group includes cases in which pernicious anemia was present from the beginning.

CASE 1.—*History.*—C. D., 36, steamfitter, with negative family history, was admitted to Cook County Hospital Nov. 23, 1905. With the exception of an attack of malaria five years previously, he always had good health. Venereal infection he denies, but admits having been a steady consumer of six to eight glasses of beer daily and an occasional glass of whisky. In June, 1905, he first noticed a gradually increasing weakness in his lower limbs, which was soon followed by numbness, tingling and prickling sensations in the same parts. He described some of his sensations as a feeling of his foot "going to sleep," and as more or less constant dull aching pains in his lower limbs, with occasional paroxysms of pain sufficiently intense to prevent sleep. With sensory symptoms persisting, the weakness and unsteadiness in his legs kept on increasing, until in September of the same year he was unable to walk. One month later he became bedridden because of the complete paraplegia which had developed. Neither at this time nor previously were there any ocular, aural, heart, pulmonary or gastric symptoms, except that for the past month he had suffered from anorexia.

Examination.—Patient, a middle-aged man, of good muscular development, presented a lemon-yellow appearance of skin and mucous membranes. He lay quietly in bed, appeared listless and disinclined to exert himself in the least degree. The viscera showed normal findings, with the exception of the heart, which revealed a soft blowing systolic apical murmur, audible also at the base. The upper extremities presented practically negative findings, but the lower limbs were held in partial flexion. When forcible extension was attempted he complained of severe pains above the knees. There was marked motor weakness in the lower extremities, but none in the upper. There was no wasting of muscles. The superficial reflexes were generally reduced, the cremasteric reflex was absent. The deep reflexes were somewhat exaggerated in the upper extremities, and markedly accentuated in the lower extremities, with distinct ankle clonus, Babinski and Oppenheim signs bilaterally present. There was marked disturbance of muscle and joint sense and hypalgesia and hypothermia in both legs and to a lesser extent in the thighs. There was delayed conduction of all forms of sensation. Tactile sensation was markedly reduced over the dorsum of the feet and the lower third of the legs, while it was perfectly normal over the abdomen. Incoordination was extreme in legs and feet and slight in upper extremities. The patient could not tell the position of his lower extremities on passive motion. Stomach analysis showed an absence of free hydrochloric acid, but no lactic acid was present. The urine was found normal.

In the spring of 1906 frequent catheterization had to be undertaken because of inability to expel the urinary contents completely. At about the same time there was rather obstinate constipation. In the beginning of summer the sphincters had resumed their functions. The blood examination made at time of entrance showed marked pernicious anemia.

Treatment.—The patient was immediately put on treatment with arsenic (Fowler's solution) in ascending doses; he soon showed remarkable improvement; his color changed from a cachectic appearance to one of almost plethora, but the cord symptoms were unaltered. A blood examination made June 4, 1906, yielded: Hemoglobin, 95 per cent.; erythrocytes, 6,664,000; white blood corpuscles, 7,200; polymorphonuclears, 66; large lymphocytes, 7; small lymphocytes, 15; eosinophiles, 9. Another blood examination made July 3, 1906, showed: Hemoglobin, 100 per cent.; red blood corpsuscles, 6,112,000; white blood corpuscles, 6,500. Patient left hospital in July, 1906, much improved in his general condition, and with a blood finding as just stated, but without any change in his cord symptoms.

Subsequent History.—Oct. 3, 1906, about four months later, he re-entered the hospital with a history that during his stay at home the spinal cord symptoms had remained about the same and that his general condition was satisfactory until about five weeks previously, when his health began to deteriorate, his skin turned white again and his former weakness returned. He complained of insomnia, anorexia and dyspnea on the slightest exertion. The bowels were constipated, and after taking laxatives, loss of sphincter control became evident. During the previous four weeks he had had dull frontal headaches and increased stiffness in his legs. He presented physical findings that were almost identical with those elicited when he first entered. The liver and spleen were palpable and tender to the touch. In the lower extremities there was complete loss of all qualities of sensation, marked inco-ordination and complete paralysis of the spastic type, with Babinski and Oppenheim signs. The blood examination made Nov. 4, 1906, showed: Erythrocytes, 1,500,000; hemoglobin, 30 per cent.; color index, 1; whites, 3,400; numerous normoblasts and megaloblasts. Dec. 5, 1906: Erythrocytes, 2,420,000; hemoglobin, 48 per cent.; leucocytes, 6,800; color index, 1; no nucleated reds were found, but large and small poikilocytes were

* Lack of space forbids me to quote more than one case of each. Those desirous of perusing the entire series of cases kindly communicate with me asking for reprints.

abundant. He was again treated with increasing doses of Fowler's solution, strychnin and iron. He began to improve and his anemic appearance gave way to that of apparent health, but no change was noticed in the cord symptoms. The improvement at this time was only temporary, as after a few weeks he relapsed and became worse than ever. In the following March he developed fever, ranging from 99 F. to 102 F., with 25 to 38 respirations to the minute. His sphincters were completely paralyzed. He became mildly delirious and died March 17, 1907. Macroscopically, the cord shows typical postero-lateral degeneration. Dr. Leweson, the interne who cared for him, will report the microscopic examination.

CASE 4.—*History.*—P. L., aged 52, entered Wesley Hospital in March, 1904, in the service of Dr. N. S. Davis, through whose courtesy I am reporting this case. Patient was a carpenter, with good family and personal history, who had always been well until a few weeks previously, when he began to complain of general weakness, loss of appetite and inability to follow his occupation. In appearance he was quite emaciated and looked ill, but a physical examination failed to detect anything beyond marked tachycardia and weak pulse. A blood examination showed 1,800,000 erythrocytes, no leucocytosis, and a relatively high hemoglobin percentage. His temperature ranged from subnormal to normal. Under treatment with Fowler's solution in ascending doses decided improvement occurred in his general condition and in a short time the blood count showed 3,000,000 erythrocytes. The following month (April, 1904) he left the hospital, greatly improved, with the intention of resuming work. He made an attempt but failed because of returning weakness and exhaustion. He continued to grow paler and weaker and at last he was even incapable of walking a short distance without becoming faint and dizzy. In this condition he was readmitted to the hospital in November, 1904. Besides the general weakness, there were constant dull pains in the lower extremities, affecting principally the calves of the legs. In addition he complained of tingling and numbness in his toes and finger-tips, with uncertainty as to their position.

Examination.—Patient appeared extremely emaciated, with cachectic look and lemon-yellow skin. The viscera, including the urinary organs, showed nothing abnormal; the pupils reacted to light and accommodation. There were no paralyses or pareses. The sensory examination revealed general reduction of pain, temperature and touch sense, particularly marked on the outer borders of legs and arms and in finger-tips. The muscle and joint sense was almost lost in the lower and blunted in the upper extremities. He was unable to distinguish between a 25-cent piece and a nickel. Inco-ordination in upper and lower extermities was very pronounced. Superficial reflexes were present and brisk. The deep reflexes were all pathologically exaggerated, there was no ankle or rectus clonus, but with careful technic a slight Babinski could be detected. The pulse was rapid and small. A blood count showed 1,250,000 erythrocytes.

Under rest and arsenic the patient improved once more. His pains and aches disappeared and the blood count showed an increase in the reds to 2,500,000 erythrocytes. This improvement, however, was only temporary. He soon relapsed into his former condition, emaciation and exhaustion became extreme, bladder and rectal incontinence developed and fever, varying from 100 to 103 F. appeared with rapid respiration and thready pulse. A complicating pleurisy and pulmonary edema, with marked abdominal tenderness and tympanitis, further aggravated his condition and he died on Dec. 23, 1904.

Autopsy.—This was held by Prof. F. R. Zeit, who made the following pathologic diagnosis: Anemia of all organs, bilateral acute fibrinous pleurisy, general acute septic peritonitis, and acute parenchymatous degeneration of liver and kidneys.

Nervous System.—Macroscopically the brain appeared normal, but the spinal cord showed marked changes in the posterior columns, particularly in the cervicodorsal region.

Microscopical Examination.—In the cervical region (Fig. 1*) the degeneration appears sharply limited to the dorsal tracts, of which Goll's column has almost completely degenerated, the few undegenerated fibers being situated near the posterior commissure and the dorsal periphery of the cord. Burdach's columns show a "patchy" degeneration, confined mostly to their internal portions, those merging into Goll's columns, while the entire postero-external zone, the root entrance zone, the long strip bordering on the posterior horns, and the cornu-commissural zones are intact. The lesions were of the two types previously described by other reporters, namely, a degeneration with small overgrowth of neuroglia toward the center of the degenerated area, bounded by an area of many vacuoles, the so-called *Lueckenfelder* of the Germans (Fig. 2). Proceeding downward to the dorsal cord the degenerated areas in the posterior columns have a tendency to become smaller (Fig. 3) and continue to diminish in size in the lumbar cord (Fig. 4), until no more degeneration is evident in the lowest lumbar and beginning sacral cord (Fig. 5). Only slight degeneration was seen in the crossed pyramidal tracts with the Weigert-Pal stain; sections stained with Marchi also showed slight degeneration in the lateral strands of the lumbar cord. Gray substance, nerve roots, pia and vessels showed no recognizable pathologic changes.

In looking over the cases of Group I we find that pernicious anemia was the most conspicuous symptom-complex, with the cord disease following closely or occurring simultaneously with the anemia. A feature that can not escape observation is that, while there may be remissions in pernicious anemia and the general health may improve for a time, when cord symptoms have once been established, no improvement seems possible.

GROUP II.—This group includes cases in which a grave form of anemia is found associated with subacute combined cord degeneration at some time of its course, not necessarily in the beginning and not constituting its most important symptom.

CASE 10.—*History.*—F. X., aged 60, with negative family and personal history, had in 1902 what was considered a nervous breakdown. Formerly an active business man and wide awake in every sense of the term, he had now become weak, apathetic and somnolent. The tendency to sleep was so great that he would yield to it even when in the theater and while in attendance at social functions. The other complaints at this time were marked weakness in the lower extremities, occasional headaches and rather obstinate constipation. He made an attempt to recuperate his health by travel, but instead of improving he returned much worse. He continued to lose strength steadily and in the winter of the same year his gait had also become uncertain. The following summer he again traveled for a few weeks, but he suffered greatly from diarrheal attacks, which still further reduced his vitality. Subsequently paresthesia and weakness in the lower extremities had become pronounced. The physician who formerly treated him kindly furnished the following notes of his findings while under his care: Oct. 18, 1902, the patient complained of numbness in legs and hands, and of constipation. The deep reflexes were about normal, but some ataxia was present in the lower extremities. Blood and urine were normal. Nov. 20, 1902, his general condition was about the same, knee and ankle jerks were reduced and ataxia in the lower extremities was marked. His condition seemed somewhat improved in March, 1903; reflexes could be obtained, but there was still weakness and ataxia in the lower extremities. Blood and urine were normal. From June 6 to July 14, 1903, there was some improvement. The paresthesia then showed a tendency to mount higher toward the trunk.

Examination.—In October, 1903, the patient appeared ill and cachectic. The sensory examination revealed analgesic areas over the lower extremities and marked loss of muscle and joint sense in the same parts. The gait was extremely ataxic and the deep reflexes were absent. Babinski sign was present on both sides. Sphincter disturbances were marked and patient was greatly debilitated. Blood examinations were made by several blood experts, whose findings did

* The plate of illustrations (pages 1107 and 1108) is inserted opposite the beginning of this article.

not agree in the details, but their reports all indicate a grave form of anemia.

Energetic treatment with arsenic and other tonics had absolutely no effect on the progress of the disease. The patient continued to grow worse and died Oct. 28, 1903.

Autopsy.—The postmortem examination was held the next day by Prof. F. R. Zeit, who made the following pathologic diagnosis: Hypertrophy of left ventricle, chronic fibrous endocarditis of mitral and aortic valves. Atheroma of aorta, chronic diffuse nephritis, fatty infiltration of the liver and interstitial hepatitis. The organs were anemic. Nervous system: Macroscopically the brain and medulla revealed normal findings externally, but on cutting into the cord yellowish areas of degeneration could be seen in the posterior and lateral columns. Nothing was found in the brain and medulla. Microscopically the greatest amount of degeneration was found in the upper portions, becoming gradually less as lower levels were reached, so that the sacral cord presented practically a normal appearance. This finding seems in harmony with that of the majority of observers. The cervical cord (Fig. 6) showed a "patchy" but symmetrical degeneration in the posterior columns, leaving free the fibers at the entrance zone, most of the fibers at the external root zone, the fibers bordering on the posterior horns, a strip of fibers seemingly delimiting Goll's from Burdach's columns, and also the fibers in the cornu-commissural zone. Generally speaking, Goll's columns were more completely degenerated than Burdach's; the latter tract, however, showed more of the "patchy" degeneration which has been frequently mentioned by various reporters. Of the lateral columns the ascending antero-lateral-tracts—Gowers' bundles—escaped, but the direct cerebellar tracts were almost entirely degenerated and the crossed pyramidal tracts showed degeneration of most fibers. The areas bordering on the posterior horns externally, as well as the reticular zones at the base of the posterior horns had practically been spared. Gray matter and vessels as well as meninges showed no pathologic findings of importance.

In the dorsal cord (Fig. 7) degenerated masses which had been seen in Goll's and Burdach's columns intermingled with healthy fibers, were here merged into one large area of degeneration. In the lower portion of the cord, the areas corresponding to Goll's columns in higher segments, appeared completely degenerated, with the exception of the fibers at the dorsal periphery and a few fibers of the cornu-commissural zone, but most of the postero-external divisions of the posterior columns, the entrance zones, had been left intact, along with the fibers bordering the posterior horns and the posterior commissure. The lateral tracts had degenerated more uniformly than in previous sections, but even here the antero-lateral half was less affected than the posterior half with its crossed pyramidal tract, but few spots of degeneration being found in the former. In the lumbar cord (Fig. 8) the areas of degeneration had gradually become contracted, so that only the central portion of each posterior column showed complete destruction, while the peripheral portions contained only small scattered areas of degeneration. In the lateral columns the degeneration appeared almost entirely to be limited to the peripherally situated crossed pyramidal tracts. Still lower down in the lumbar cord, approaching the sacral division, the degeneration was practically limited to a small area in the crossed pyramidal tract and an insignificant patch in the posterior columns (Fig. 9). The lower sacral segments and the conus medullaris showed normal findings.

GROUP III.—This group includes cases in which anemia is either absent, slight, or constitutes but a minor symptom of the entire disease.

CASE 16.—*History.*—C. H., aged 43 years, a working woman, entered Cook County Hospital Feb. 26, 1905. She gave a negative family history and stated that she had had three miscarriages and ten full-term children, of which number two died of tuberculosis. She never had veneral disease and never drank to excess. On account of desertion by her drunken husband she had been compelled to do washing in order to support a large family, which excessive labor had of late somewhat exhausted her strength. She was always well until about two months previously, when she developed tingling and numbness in the lower extremities and a feeling as though her feet were asleep. During the same length of time she experienced a feeling of constriction about the waist which she described as a sensation of a rubber band being continually tightened about her abdomen. Uncertainty in gait came on about the same time. Tingling and numbness were also experienced in hands and fingers. She never suffered acute pain and while she was generally constipated, the bladder always functionated normally.

Examination.—This revealed a small, poorly nourished woman who walked with a spastic and ataxic gait. Paralysis or paresis of muscles could not be detected. Eyes reacted to light and accommodation. The deep reflexes were all exaggerated, marked ankle clonus was present bilaterally, but Babinski's sign could not be elicited. There was marked impairment of the pain, touch, temperature, muscle and joint sense in the lower extremities, becoming fainter toward the waist line, but not extending beyond it. The big toes were completely analgesic. No hyperesthetic nor hyperalgesic areas could be found. Heart and lungs were negative. The urine showed an occasional trace of albumin, but no casts.

The course of the disease was subacute, with a downward tendency, although at one time the patient had left the hospital much improved. After a few weeks she returned, however, in a worse condition than when she first entered. The troublesome paresthesia continued to progress and became quite general. Eventually she was unable to recognize objects by touch with eyes closed. In addition, motor power soon became greatly impaired and she seldom left her bed. Seven months after her first admission incontinence of sphincters and complete paraplegia developed. The reflexes were still exaggerated and muscular twitchings were present. Toward the end of November, 1905, a complete ascending paralysis developed which involved upper extremities and intercostal muscles. Speech was somewhat disturbed, the temperature rose to 103 F., respirations were 28 to the minute. Several days before death (Dec. 2, 1905) a muttering delirium supervened, followed by coma. The last blood count, made three and a half weeks before death, showed a hemoglobin percentage of 65; erythrocytes, 3,200,000; leucocytes, 6,800.

Autopsy.—Postmortem examination revealed nothing of importance in the viscera. The following points are from the notes taken: The brain is normal, but the spinal cord shows widespread and diffuse degeneration throughout all levels, affecting all systems indiscriminately. The various tracts show different involvement. In the cervical region (Fig. 10) we find almost complete degeneration of the posterior columns, excepting a few fibers at the extreme dorsal periphery; the postero-external root zone and the cornu-commissural zone have been partially spared. The direct cerebellar tracts and portions of Gowers' bundle have degenerated unequally. In the region of the right direct pyramidal tract there is considerable degeneration, but the crossed pyramidal tract shows only a moderate degree of degeneration. In the dorsal cord (Fig. 11) we recognize the picture of postero-lateral tract degeneration; at this level it resembles the cord of Case 10, but in addition we have here degeneration in the anterior tracts, particularly the right. At the level of the lumbar enlargement (Fig. 12) we see what is unusual for this disease, complete destruction of the posterior columns; all definition between white substance and posterior horns is lost; the entire area between the internal borders of the posterior horns appears light, with but few islets of normal tissue remaining. The periphery of each lateral half in this situation has also degenerated. The crossed pyramidal tracts have largely disappeared. We again recognize at this level the area of degeneration that was seen bordering the right median fissure in higher segments.

SUMMARY OF CASES.

In the entire series there were fourteen males and only three females. Nearly all were over 40 years old (except the patient in Case 36), and in only one case (Case 3) was there a history of past syphilis. Nearly all began with subjective sensory disturbances

and disorders of inco-ordination and were followed by motor weakness. In several cases gastrointestinal disorders, and particularly diarrheas, appeared either before the beginning or during the course of the disease. As regards its association with anemia, we find only four cases which began as a typical pernicious anemia, while the others either showed but little anemia or the anemia, though pernicious in type, was not an early symptom. At the time of examination nearly all presented an appearance of ill health, and in some the disease was preceded by a prolonged illness or at least by a neurasthenic state.

SUMMARY OF PATHOLOGIC ANATOMY.

There was no strict conformity to the systemic type of degeneration in any of the cords examined. On the contrary, the degeneration appeared in more or less discrete patches, differing in this respect from such system diseases as tabes. In nearly all there was involvement of the posterior and lateral columns, although the cord of the patient in Case 4 showed only an insignificant amount of degeneration in other than the posterior column tracts. The greatest amount of degeneration was generally found in the cervical and dorsal regions, except Case 16, which showed the greatest damage in the lumbar cord (Fig. 12). Gray matter, vessels and nerve roots showed no pathologic changes of importance. The processes of vacuolation and neuroglia formation have been found side by side in nearly all the sections examined.

DIFFERENTIAL DIAGNOSIS.

Early in its course the disease may be mistaken for tabes, because of the sensory disturbances common to both affections. In fact, it would appear that this mistake must have occurred quite often when we read in the older authors of the complications of tabes with lateral tract disease. It will be recalled that sensory disorders in combined cord degeneration are for some time usually only subjective and rarely show paroxysmal recurrences, while in tabes we have the so-called lancinating and girdle pains, Argyll-Robertson pupils and visceral crises, all symptoms which are rarely found in combined cord degeneration. In addition, the detection of muscular weakness and exaggerated reflexes with Babinski's toe sign will at once rule out tabes. In the more advanced stage of the disease, when spasticity and the reflexes have become greatly accentuated and when marked weakness in the lower extremities dominates the field, it must be differentiated from lateral sclerosis and transverse lesions of the cord. In the latter there are early loss of sphincter control, more complete paralysis of motion and sensation, beginning at definite cord levels, of rather sudden onset; while subacute combined cord disease develops rapidly, and paraplegia with loss of sphincter control may mark its termination, but never its beginning.

From lateral sclerosis, or so-called spastic paraplegia, the disease can be differentiated by the complete absence of sensory symptoms in the former disease and their invariable presence in the latter. The family ataxias, of which Friedreich's disease is the most prominent representative, have close anatomic and symptomatic similarities with the disease under consideration.

Friedreich's disease is a combined cord affection in which the sensory tracts, such as the posterior columns, the direct cerebellar tract and Gowers' bundle, are principally affected; the pyramidal tract is usually but slightly involved. Further, there are no exaggerated reflexes nor spasticity—symptoms which are commonly present in subacute combined cord degeneration. Bearing in mind the familiar features of Friedreich's disease, the nystagmus, the absent reflexes, the marked ataxia and its occurrence in early life, we have definite diagnostic criteria that make it stand apart from almost any other disease.

From hereditary spastic ataxia and hereditary cerebellar disease the age and the hereditary or familial traits are sufficient for diagnosis.

SPINAL SYPHILIS AND MULTIPLE SCLEROSIS.

Spinal syphilis and multiple sclerosis of certain types offer great difficulty in the differentiation from combined cord degeneration.

Spinal Syphilis.—For our purpose only two varieties of spinal syphilis require differentiation: 1, Syphilitic meningo-myelitis; 2, Erb's spinal syphilis.

1. In meningo-myelitis the symptoms are those of meningeal irritation, such as pain and tenderness over vertebra, radiating pains in upper and lower extremities, followed by the symptoms of myelitis, paresthesia and sensation of weakness, spasticity and various paralyses, exaggerated reflexes, bladder and rectal disturbances. If the cervical cord is affected we have atrophic paralysis in the upper and spastic paralysis in the lower extremities. If the lumbar cord is the seat of the syphilitic process absent knee jerks and complete loss of sphincter control are additional symptoms.

2. Erb in 1892 described the type of spinal syphilis now bearing his name substantially as follows: "Several years after a syphilitic infection there may be gradual development of spastic paresis in the lower extremities, slightly spastic gait with slight motor paresis, exaggeration of the deep reflexes, slight or absent sensory disturbances, mild or severe bladder difficulties, with no abnormalities of intelligence, no involvement of upper extremities, cranial nerves or pupils."

Because of the similarity in symptoms these types of spinal syphilis occasionally cause almost insurmountable difficulties in differential diagnosis. We must remember first that a history of syphilis is rare in combined cord degeneration; in the few instances in which luetic infection has been mentioned this has occurred long ago and a direct connection was not shown. All authorities are agreed that spinal syphilis usually develops within the first five years after luetic infection. In the presence of such a history the symptom-complex of combined cord degeneration must be interpreted as spinal lues.

Root symptoms and complete paralysis of motion, while prominent in meningo-myelitis, are rare in combined cord degeneration; in the latter, paresthesia, inco-ordination and slight degrees of motor weakness are leading symptoms. The sphincters are involved early in meningo-myelitis and late in combined cord degeneration. Further, the symptoms of meningo-myelitis often develop in step-like fashion, are usually atypical, incomplete, and have a tendency to appear, recede and reappear just as in cerebral lues. On the other hand, the course of subacute combined cord degeneration is steadily progressive; rarely does it show remissions, and hardly ever intermissions.

A practical point in diagnosis is that while in meningo-myelitis of luetic origin there is usually found a history or the presence of one or more cerebral symptoms, viz., headache, dizziness, transient ocular palsies, a rigid pupil, such symptoms speak strongly against the diagnosis of combined cord degeneration.

Of additional value in differentiation is the sensory dissociation frequently noted in luetic meningo-myelitis: touch and pain sense is intact, while temperature sense is disturbed, or *vice versa*. In combined cord disease objective sensory disturbances conform mostly to the type of posterior column disease.

The differential diagnosis between combined cord disease and Erb's spinal syphilis, to this day not recognized by all neurologists as a distinct type, is extremely difficult and at times impossible. When we reflect that the pathologic changes considered typical of combined cord degeneration have been found in the cords of supposed cases of Erb's spinal lues we need not wonder that the symptoms are occasionally identical. A history of recent lues will certainly, and the therapeutic test may possibly, decide the diagnosis in a doubtful case.

Multiple Sclerosis.—We should expect that insular sclerosis will produce symptoms similar to those of combined cord degeneration, provided the posterior and lateral tracts are the seat of sclerotic patches, and such is really the case in many instances. For diagnosis we shall consider the patient's age and the course of the disease. Multiple sclerosis usually occurs in young adults, combined cord degeneration in persons past middle age. The course is subacute in the latter and chronic in the former disease.

Multiple or insular cerebrospinal sclerosis rarely affects the cord alone; indeed, its very name indicates that islets of sclerosis are found indiscriminately scattered throughout the entire cerebrospinal axis; we, therefore, look for cerebral symptoms in every case. Although the triad of symptoms, nystagmus, scanning speech and intention tremor are rarely all found in the same individual, we may find at least one of these classical signs to decide the diagnosis. If eye findings are present slight paleness of the temporal discs and central scotoma speak in favor of multiple sclerosis, while the rare cases of combined cord degeneration in which fundus changes have been observed resembled the tabetic variety more than any other.

A careful sensory test will occasionally offer valuable aid in differentiation. In combined cord disease the perversion of sensation refers to pressure and position and generally corresponds to that of posterior column disease—sensory disorders are altogether infrequent in multiple sclerosis, and if present do not conform to a system arrangement.

ETIOLOGY AND PATHOLOGY.

Under etiology and pathology I can only offer purely theoretic considerations. One view maintains that the disease is due to failure of the glandular secretions to neutralize the body poisons resulting from metabolism, which poisons then act deleteriously on the tissues of the spinal cord. Others ascribe the disease to insufficient nutrition and development of poisons from disease of the worn-out blood-making organs, and cite as corroborative proof the fact that the disease usually occurs at the degenerative period of life. Some have reasoned from the coincident existence of pernicious anemia with combined cord degeneration that the latter is the result of the former, but this view had to be abandoned when cases of cord degeneration were found without pernicious anemia and when cord symptoms were recorded prior to the development of symptoms of pernicious anemia. Most observers believe that a hypothetical toxin is responsible for the lesions in this disease. An argument from analogy is that the particular poison may have selective affinities for certain tracts in the cord tissues just as other nerve poisons pick out certain peripheral nerves or brain centers, and the various types of multiple neuritis, pellagra and ergotin poisoning have been cited in support of this view.

PROGNOSIS AND TREATMENT.

The disease usually terminates fatally within one and one-half to five or even six years. Instances of partial and even complete recovery have been recorded, but sufficient latitude must be allowed for mistakes in diagnosis. There is no valid reason, however, why improvement and even arrest of the disease should not occur if treatment is begun sufficiently early.

As the cord disease is frequently found in company with anemia or some other form of ill health, the associated disorder will come in for a large share of attention. At all events rest of mind and body is positively indicated. If anemia is present iron tonics and arsenic, particularly the latter, are indicated. If gastrointestinal disorders, such as indigestion or diarrheas, are troublesome strict attention will be paid to the dietary and appropriate remedies administered.

The sensory discomforts which are usually only subjective in the beginning can be greatly benefited by the application of the faradic brush. The Pacquelin cautery applied over the spine occasionally relieves sensory symptoms. General faradization as a tonic and local faradization over weak muscles, used in moderate strength and not longer than twenty minutes at each sitting, appear to be beneficial; in addition gentle massage may be used cautiously. Patients must be warned against every form of fatigue; they are advised to lead a regular life and the early cases are permitted to indulge in a moderate degree of open air exercise.

For the inco-ordination nothing has yet excelled or even approached in efficacy Frenkel's systematic exercises originally devised for the treatment of tabetic ataxia. These can be varied to suit each case and will be found very helpful in the early and even in the more advanced degrees of inco-ordination encountered in this disease. The underlying principle of the method is to re-educate the patient's muscles in proper co-ordination, at first with the aid of sight and later without it. Only persistent systematic effort is fruitful of results.

It is needless to say that there is no specific remedy against this disease. The treatment must, therefore, be purely symptomatic. Bearing in mind our utter helplessness in the face of the fully developed disease, it will be our endeavor to recognize the disease in its early stages when treatment can accomplish the most good.

In conclusion I wish to express my thanks to Dr. Hugh T. Patrick for the loan of a number of interesting case records which constitute the groundwork for this paper. To Dr. F. R. Zeit I am greatly indebted for notes on two postmortem examinations and for the use of the laboratory facilities under his charge at Northwestern University Medical School.

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DISCUSSION.

DR. HUGH T. PATRICK, Chicago, said that, although the members of the section are all perfectly familiar with the disease, by those outside of the neurological ranks the disease is but little understood and often unrecognized. In the first place, the cases begin very gradually, perhaps not exceedingly gradually, but at any rate slowly, and they begin with such symptoms as might lead one to suppose that the trouble is functional and will be transient. In the next place, supposing that combined

degeneration is suspected, too many observers expect to find great anemia. Indeed, we have been led to look on and to classify these cases as a complication or result of pernicious anemia, although they occur both with and without anemia. Dr. Patrick has seen many of these cases in which there was no anemia, or only moderate secondary anemia, as well as cases in which there was a pernicious anemia. Furthermore, in looking back over the cases he has seen, he can remember a few in which he was compelled, provisionally, to exclude organic disease, because he could find nothing whatever to justify a diagnosis of organic trouble. There were absolutely none of the signs which we must rely on to make the diagnosis of organic disease. As regards the diagnosis, he thought that in some cases it is absolutely impossible, even after rather extended observation, to decide whether the case is one of combined spinal cord degeneration, or, as some prefer to call it, diffuse degeneration, or multiple sclerosis, or specific disease of the cord. He has made all of these mistakes in various ways. For instance, in one case under observation for a long time, he at first thought it was a case of combined cord degeneration, but under specific treatment the patient improved rapidly and then came to a standstill so that it undoubtedly was a specific case. Another case he thought to be one of multiple sclerosis was really a case of combined degeneration.

Special Article

THE SCARLET FEVER EPIDEMIC OF NINETEEN HUNDRED AND SEVEN.*

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Two kinds of evidence are recognized in the courts of law, direct and circumstantial. The first is positive and, if true, it is incontrovertible. Circumstantial evidence, however, though it may be convincing, still deals only with possibilities and probabilities and may be refuted by direct evidence or by stronger circumstantial facts.

Practically speaking, all studies in the etiology of disease are based on purely circumstantial evidence. We sometimes become so accustomed to the deductions of certain observations that we lose sight of the possibility of error. Koch's postulates are, perhaps, as clear and convincing as any scientific reasoning can be: A germ isolated from the blood or body of a person sick or dead from a given disease; that germ cultivated outside the body until a pure culture is obtained; that pure culture being introduced into a healthy individual, and such inoculation being followed by the typical symptoms of the disease; and, finally, an examination having been made of this last patient's blood or organs, and this particular germ being there recovered, all this is convincing proof that this particular germ causes the disease in question.

This, however, is but a statement of probabilities. The inoculated individual, though apparently well, might in reality already be afflicted with the disease before the inoculation. Negative evidence is never conclusive. The fact that a number of blood tests have been made with negative results is not absolute proof of the absence of a certain germ in the blood. Failure may be due either to faulty technic or to the accidental absence of the germ from the drops tested; observation may be faulty and the germ taken from the inoculated patient, though resembling that introduced, may really be different; or the so-called pure culture may in reality be a mixed culture, and the unrecognized germ may be the real cause of the disease. These are possibilities always present, but they are reduced to an infinitesimal degree by numerous observations, by different investigators, under varying conditions. Still it must be remembered that this evidence is always, and at best, circumstantial in character.

Unfortunately, in studying etiology, it is frequently impossible to get evidence as clearly convincing as Koch's postulates. In such studies we must be careful to exclude prejudice. The fact that a disease is sometimes directly traceable to contagion from another patient does not prove that it is always so. This form of prejudice has undoubtedly done much harm. Often those high in authority have been so thoroughly imbued with the idea that every case of diphtheria or scarlet fever may be directly traced to a previous case that they neglect to protect against other possible sources. Yet there are many cases of diphtheria in which the only apparent cause has been the germ cultivated in sewage and introduced into the system with water or food or with inspired air. So with scarlatina. Where it has been endemic, various observers have thought that the germ developed in the soil and contaminated the water supply.

Evanston, a city of about 24,000 people, is located on the shore of Lake Michigan, north of, and adjoining, the city of Chicago. Two sand ridges traverse the city from north to south, prehistoric banks of the lake. Between these ridges and to the west the soil is a rich alluvial deposit. The elevation of the city is from 12 to 40 feet above the level of the lake.

The city is well drained, the sewers emptying into the lake, and it is supplied with water taken from the lake three-fourths of a mile from the shore. As a rule, the more wealthy citizens live along the lake shore and on the ridges. The artisan and laboring classes are more particularly to be found west of the ridge.

Most of the inhabitants are Chicago business men, who go to the city in the morning and return at night. There is a university which is the center of activity for many more. There are a few factories employing men only, but there are no workrooms where boys and girls labor.

North of Evanston, along the shore of the lake, are the villages of Wilmette, Kenilworth and Winnetka. These villages, like Evanston, are sewered into and supplied with water from Lake Michigan. They have no factories, and the citizens are Chicago business men, going to business in the morning and returning at night. These villages are all in the Township of New Trier, and use the same high school, which is located between Kenilworth and Winnetka. Evanston has its own high school.

I may here say, by the way of explanation, that I am in no way connected with the department of health of Evanston. Having previously made some studies in the etiology of contagious diseases and being interested in that line of investigation, I undertook this study for my own satisfaction and have sought information wherever I could find it. For data I am under obligation to the health departments of Chicago, Evanston, Wilmette, Kenilworth and Winnetka. I have attempted to weigh the facts impartially.

In August and September, 1906, Evanston physicians found a number of cases of scarlet fever in Evanston and in those parts of Chicago known as Rogers Park and Edgewater. It was noticed that practically all

* Read by request at the North Shore Branch of the Chicago Medical Society, Jan. 7, 1908.

received milk from one dairy depot, which for convenience I shall call Depot A. The Evanston commissioner of health, Dr. William R. Parkes, therefore, ordered this Depot A to obtain its supply of milk from another source. I suppose this was done. The manager of Depot A—whose honesty and intended veracity are not questioned—presented to me certain statements tending to show that Dr. Parkes had acted through personal prejudice. He also showed to me an affidavit to the effect that there was no scarlet fever among the employés of the bottling plant nor among the farmers supplying the bottling plant. I was invited to go and examine the plant and the dairies, but did not do so. At that time and until the middle of January I was an occasional patron of Depot A.

In January, 1907, seven cases of scarlatina were reported in Evanston within the first thirteen days. On January 14, 12 cases, January 15, 35 cases, and in the following days, 29, 20, 24 and 19, in the order stated (Chart 1). Inasmuch as a large percentage of the families used milk or cream from Depot A, Dr. Parkes immediately ordered the managers of the depot to get their supply from another source. Because it was thought that he acted without further investigation, he was severely criticised by certain people, and the company owning Depot A sent one Dr. P. to make an investigation. Dr. P. announced that he was going to make a thorough examination and tabulate the findings, and that when completed he would give me a copy. He knew that at that time I was making a similar investigation. He went to various physicians and offered to pay them for assistance. He paid me, for example, the price of one call at each house in which I had had recent scarlatina cases in order that I might be able to answer more explicitly certain questions. I am still waiting to receive his report, but incidentally from outside sources I have heard of the results of the company's statements. Before proceeding with the subject I shall here answer two of the company's assertions.

1. The disease was scarlatina. In the diagnosis of the disease we are dependent on the general symptoms, for as yet no specific germ has been recognized by the profession. There are in general practice in Evanston about thirty physicians. Almost every one of these physicians reported cases in the epidemic. No physician with a general local practice failed to report scarlatina, except one, who refused to take these cases. While in a few individual cases the diagnosis was later changed, no physician in Evanston would think of saying that the large majority of the cases were not scarlatina, and no physician has even said that none of his reported cases was scarlatina.

2. At a meeting of the Evanston Branch of the Chicago Medical Society a resolution was passed unanimously that it was the sense of the branch that the epidemic was caused by impure milk. This resolution has never been rescinded, nor has any member suggested such action.

In considering the evidence as to the etiology of this outbreak we must remember certain facts tersely put in legal decisions. In the case of Johnson vs. Continental Casualty Co., the St. Louis Court of Appeals says: "Demonstrative proof that he died solely in consequence of the accident hardly could be made. On such issues evidence can not go beyond producing that degree of conviction in reasonable minds on which men are accustomed to decide and act in ordinary affairs. All possibility of mistake can not be excluded."

In the case of the M., K. & T. Ry. Co. vs. Raney, the Court of Civil Appeals of Texas says: "The testimony was sufficient to support the finding of the jury, that the plaintiff contracted the smallpox from the company's agent, when, in so far as the evidence showed, such agent was the only person to whom the plaintiff was exposed who had the disease, and the evidence showed that the plaintiff contracted it within the usual time after such exposure."

In the Evanston epidemic we find that suddenly and without apparent reason there was a remarkable increase in the number of cases reported. Unlike other epidemics in which families were attacked seriatim, now whole families came down in a day. A remarkable proportion of the cases were adults. In afflicted families, many who had previously had the disease now showed mild symptoms for a day or two, indicating that the virulence of the poison was too great in proportion to their protection. The disease was scattered not only throughout the eastern part of Evanston, but through Rogers Park, on the south, which was supplied from Depot A, and through Wilmette and that portion of Kenilworth supplied from Depot A; but Winnetka, not receiving Depot A milk, had only one case, and that was easily traced to contagion. There were also few cases in the western part of Evanston, which is inhabited chiefly by artisans and laborers, and here, too, Depot A had few patrons. Ordinarily contagious diseases show a preference for those who, through lack of knowledge or finances, are less perfectly guarded by sanitary precautions. There was no evidence of exposure to previous cases in a great majority of the patients. Those cases showing contagion in a majority of instances were traced back to users of milk from Depot A. There was no gathering, church or school, through which the infection could have come; this was especially sought by Dr. P. There was a possibility of the infection having been received through strange dogs or cats in two or three cases only. Dr. P. stated that he found a number of unreported cases before the January outbreak, but the health department was unable to get definite facts supporting that statement. Even if this were true, contact with unreported cases was not shown. Dr. P. also stated that he believed that the outbreak might be justly charged to defective quarantine, stating that certain trainmen on the C. & N. W. Ry. suburban trains worked regularly, though living at home when there were cases of the disease in the family. Here, again, he simply made general statements, but gave no evidence to support his claim. Even if this fact were admitted, it does not prove his contention, for, as is well known, exposure to previous cases generally affects first one, then another in a family, whereas in this instance it took whole families at one time and showed no preference for train-riders or their families. It does not explain the immunity of Winnetka and most of Kenilworth.

On the other hand, in Evanston, in all the cases reported in the previous August, the families were users of Depot A milk, and this was also true in a majority of cases reported during the rest of the year. In the eight days, January 14 to 21, when the largest number were reported, out of the 157 cases reported, at least 97 per cent. of the families were patrons of Depot A (Chart 1). In a large family boarding house the milk and cream did not come from Depot A, but one woman bought milk for her baby from Depot A because she supposed it was extra safe. That baby was the only victim of the disease in that neighborhood. Out of about seventy

persons in the house the only one afflicted was the only user of Depot A milk. Owing to the publicity given the facts, there was an immediate loss of patronage for Depot A, which may to some degree explain the recession of the epidemic, and the second day after Depot A began to deliver milk from a new source the number of new cases reported was reduced to four. When the spread of the disease was practically stopped in Evanston it was rapidly increasing in Chicago, where the milk that was refused by Evanston was delivered. (See Chart 2.)

The company owning Depot A sought to explain this enormous proportion of their patrons by the manifest falsehood that they sold most of the milk in Evanston. This falsehood was repeated by them so frequently that it was believed by some who were uninformed. By questioning milkmen I had estimated that Depot A sold about one-eighth of the milk in Evanston. Every milk wagon in Evanston carries a license tag. In January, 1907, there were forty-two wagons licensed, of which Depot A had only six, or one-seventh of the total number. It is fair to say, therefore, that Depot A supplied only one-seventh of the milk in Evanston.

Even if Depot A were supplying most of the milk in Evanston that would not explain the sudden fall in the number of cases, particularly after the change of source of supply, unless this milk were the real cause.

The class of citizens and mode of life are practically the same in Evanston, Wilmette and Winnetka. In December, 1906, and January and February, 1907, 210 cases were reported in Evanston. In the same time Wilmette, with a population of 5,000, one-fifth as large as Evanston, had 38 cases, which is about the same proportion.

In the same proportion Winnetka, with a population of 2,800, should have had over 20 cases. It had one only, traced to direct contagion. In all the cases after January 14 in Wilmette the patients were users of Depot A milk. In Kenilworth the only cases of the disease were reported January 14, 15 and 16, 7 cases. Of these, four patients were regular patrons of Depot A. The other three were next door to one of the other cases. They were not regular patrons of Depot A, but the morning before they were taken sick the maid borrowed milk and the physician was unable to learn from what source this milk came. These facts are significant taken with the further fact that no Depot A milk enters Winnetka.

In Chicago (Chart 2) for the six weeks ending January 11 an average of 135 cases of scarlatina were reported each week. The next week, ending January 18, there were 348 cases, more than two and one-half times as many as the previous week. In the week ending January 25 there were 1,005 cases and the next week 1,689. January 25 the shipment of milk from "X" was stopped, but there is a period of incubation, so we could not expect to see the results of the changed milk supply until the week ending February 8, in which there were 620 cases. The next two weeks there were 386 and 277 in order named. Since the population of Chicago is 87.5 times as large as that of Evanston, it will be noticed that it did not suffer so severely in proportion, considering the entire population. The disease, however, was to a degree confined to the north and west sides of the city. Chicago (Chart 2) is represented on a scale of 1 to 10 compared with the others.

In the week ending February 1 the great increase in the number of cases reported was attributed by the Department of Health of Chicago to the fact that people were becoming alarmed and sent for physicians in milder cases of illness, and also to greater zeal in inspections. Yet in the same paragraph which mentions an increase of 681[1] cases of scarlatina and an increase of 51 cases of measles there is mentioned a decrease of six of diphtheria.

If the increase in reports of cases of scarlatina were due to greater zeal in making reports and inspections, we should look for a similar increase in reports of diphtheria, measles and whooping cough. Chart 4, which gives the total number of cases reported in Chicago for that period, shows a fairly even line for whooping cough; and the rise in the lines for diphtheria and measles is no more than we should expect from uncertainty of diagnosis between those diseases and scarlatina.

Further, a study of the table and diagram of deaths in Chicago (Chart 3) shows a fairly even list for whooping cough, measles and diphtheria, but in the week ending February 1 the number of deaths (44) from scarlet fever was double that of the week before. This would tend to show that the increase in reports was not due to the "scare" and the reporting of milder cases. The map published in the *Bulletin* of the Department of Health February 9 strengthens the suspicion that infected milk from "X" was the cause of Chicago's scarlet fever.

In the *Bulletin* of the Chicago Department of Health January 26, 1907, we read: "Milk from this locality (i. e., 'X') has hitherto been sent to Evanston principally, a small part, however, went to Wilmette and Oak Park."

"Investigation on the 25th inst. shows that, so far as could be ascertained, there are no cases among the employés of the plant at present, and only one case has appeared among the dairies supplying milk to this plant. Milk from this dairy has not been received since the case was discovered. No milk from this plant has been sent to Chicago since the Health Department of Evanston prohibited the entrance of this milk to the city of Evanston."

These paragraphs are very misleading. On the evening of January 15 Dr. Parkes called up Dr. Whalen, who then occupied the chair of Commissioner of Health in Chicago, and reported to Dr. Whalen the conditions in Evanston and his opinion that the disease came from "X" milk. Dr. Whalen was very skeptical and refused even to investigate. Dr. Parkes again conferred with Dr. Whalen January 24 and reported further facts. The result was the visit of Chicago officials in "X" January 25. They did not spend so much time as was consumed in the quiet detective work of Evanston's representatives and evidently received their information from the milk company without question.

Previous to January 16 the "X" bottling plant shipped daily five cars of milk. Three of these went to Chicago, one to Oak Park and the smallest car went to Depot A in Evanston. Depot A, as before stated, delivered milk in Rogers Park, in Wilmette and a little in Kenilworth, aside from Evanston.

The physician employed at "X" by the milk company admitted, when confronted with facts, that there were five or six cases of scarlet fever in the family of Edwards, who sold milk to the company. After the disease

1. This number does not exactly agree with the tables in either Chart 3 or 4. Variations are explained by the fact that the data were collected by three persons at different times.

was discovered the company says it did not ship Edwards' milk, but we have reason for believing that the Edwards milk was used in the condensing plant. The physician of the company attended two cases in the family of Fred Reaman, who shipped his milk through the "X" plant, and we have evidence that Reaman milk was received and shipped as late as January 24, and had been so regularly received since the physician was called late in December. The Evanston commissioner has the names of not less than fifteen families which were quarantined in "X" in January, 1907, for scarlet fever, but evidence shows that the quarantine was lax.

MONTHS,	AUG.	SEPT.	OCT.	NOV.	DEC.	JANUARY. 1–13	14–21	22–26	27–30	FEB.
TOTAL CASES.	3	11	2	4	4	7	157	21	5	12
USING X MILK.	3	9	1	1	3	0	153	13	1	1
%	100	81.8	50	25	75	0	97.4	61.9	20	8.3

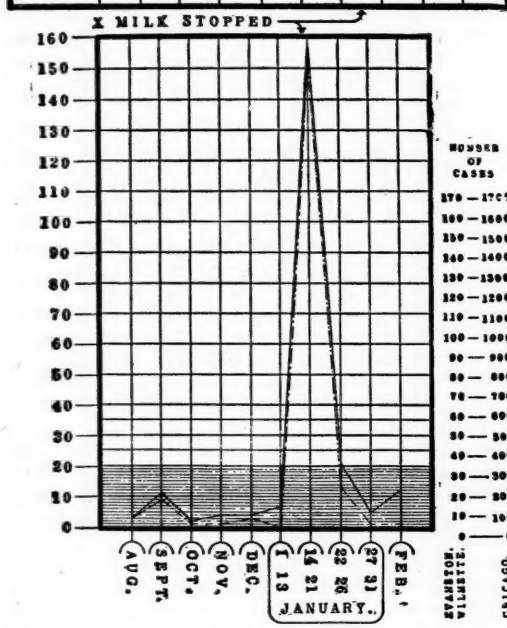


Chart 1.—Showing total number of cases and proportion in which "X" milk was used. Total cases, ———; cases using "X" milk, —. —. —.

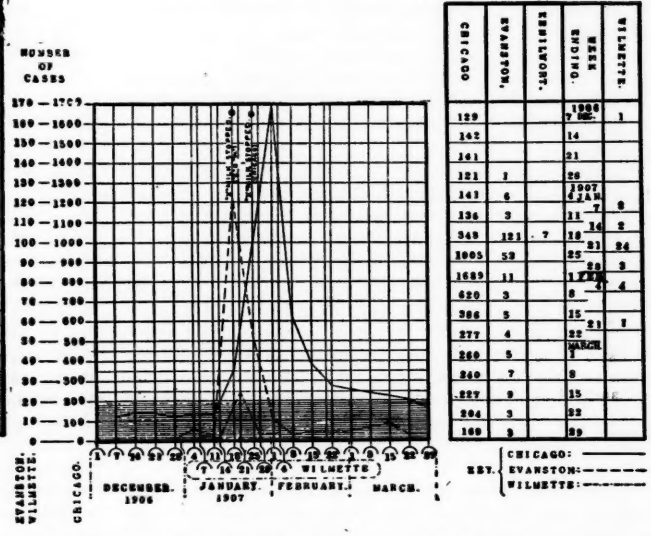


Chart 2.—Number of cases of scarlet fever reported during the epidemic of 1907. Chicago, ———; Evanston, — — — —; Wilmette, -.-.-.

the disease started, from common origin. However, we should expect to find some evidence of the disease among the handlers of the milk or their families or among the herds.

The milk received in Evanston by Depot A comes already bottled, so it would not be likely to become infected in Depot A. So far as known, there was no case of the disease in the families of that depot before this outbreak. January 19 a case was reported in the family of one of the drivers.

The milk was bottled at "X." Milk of the evening of January 10 and the morning of January 11 was taken to the bottling works, bottled and shipped by rail to Evanston, where it was received about 1 a. m. January 12. Owing to the rules of the milk drivers' union this milk was delivered after breakfast. Since little milk or cream is taken raw except at breakfast, most of this milk was consumed on the morning of January 13.

This statement is authoritative. When the time from the cow to the consumer is considered, and the most excellent value of the milk as a culture medium, it may readily be seen that a few germs at the time of milking may have become an army by the time the milk is consumed.

In spite of the affidavit relative to the absence of scarlet fever at "X," on investigation it was found that

Members of some of these families were employés of the milk company. After Evanston refused to receive "X" milk the car previously sent to Evanston from "X" went to Chicago until a representative of the Illinois State Board of Health called on the Wisconsin State Board of Health, and the "X" bottling plant was closed January 25.

Inasmuch as no specific germ has been isolated for scarlatina, a bacteriologic examination of the milk would not be conclusive for this epidemic. It must be remembered that even if a specific germ of scarlet fever had been found in the milk it would not be conclusive proof of the origin of the epidemic, for it might be claimed that the bacteria appeared in the milk after in August, when the first outbreak occurred in Evanston, a capper in the "X" bottling plant, by the name of Strickland, had desquamating hands. He had recently been ill, but the physician called it a case of blood poisoning.

Soon after this two of his working mates were taken ill; one by the name of Meyers was quarantined for scarlatina, and the other, Miller, had similar symptoms, but being under the care of another physician was not quarantined.

January 25 a representative of the Illinois State Board of Health found 40 cases at "X," which has a population of about 700, and 15 more close by in territory supplying the "X" bottling plant.

Soon after the January outbreak it was learned that a representative of the Illinois State Board of Health came to Evanston to investigate. He did not make himself known to Evanston physicians nor to anyone in the health department, but told his errand at the Columbia Restaurant. He then went to "X." He was met at the train by an employé of the milk company, shown around the plant, given dinner and returned home, having called up Dr. Parkes at Evanston by telephone. We understood that he reported a clear bill of health for "X." Dr. Egan was then absent from his office on account of sickness. A letter to another member of the board brought forth an insulting and incoherent reply ending as follows: "The information which you convey in regard to the action of the milk company is certainly important, if you are prepared to defend this statement if necessary in court."

In that and other letters he argued that the board should not be expected to act in this case because "X" was outside Illinois, and that the Pure Food Commissioner was the proper official to guard the purity of the milk. In view of the foregoing this extract from a letter dated March 19, written on State Board of Health paper and signed "J. A. Egan, H.," is interesting:

"In reply I would state that besides my personal investigation, two inspectors for this board visited the source of supply complained of, and we were *unable to obtain any evidence* to substantiate the claim that the epidemic was caused by infected milk supplied by the —— milk company." (Italics mine.) And this after one of those inspectors reported 55 cases in that community! Six per cent. of the population sick with scarlet fever and yet "no evidence" of infection!

There are other very important facts which might easily have been discovered had the doctor really been as anxious to protect the health of our citizens as to protect the milk company.

MONTHS		DECEMBER 1906				JANUARY 1907				FEBRUARY 1907				MARCH 1907				
WEEK ENDING		7	14	21	28	4	11	18	25	1	8	15	22	1	8	15	22	29
CASES REPORTED	DIPHTHERIA	28	133	39	139	136	149	150	298	292	210	150	145	141	115	126	121	96
	MEASLES	92	22	21	27	26	29	26	129	190	154	130	117	102	103	111	103	126
	WHOOPING COUGH			1	1		6	1	16	19	13	6	6	6	8	2	8	3
	SCARLET FEVER	129	362	161	151	141	139	348	2005	3684	620	366	277	260	240	227	204	169

WEEK ENDING.	WHOOPING COUGH.	SCARLET FEVER.	DIPHTHERIA	MEASLES
JAN. 5	6	13	15	0
12	8	11	19	6
19	6	18	17	4
26	12	22	16	13
FEB. 2	7	44	15	4
9	9	44	15	11
16	8	39	11	4
23	8	27	20	7
MARCH. 2	7	23	5	12
9	6	27	9	4
AVERAGE.	7.7	26.8	14.2	6.5
KEY.	.....	———	- - - - - -	-·-·-·-

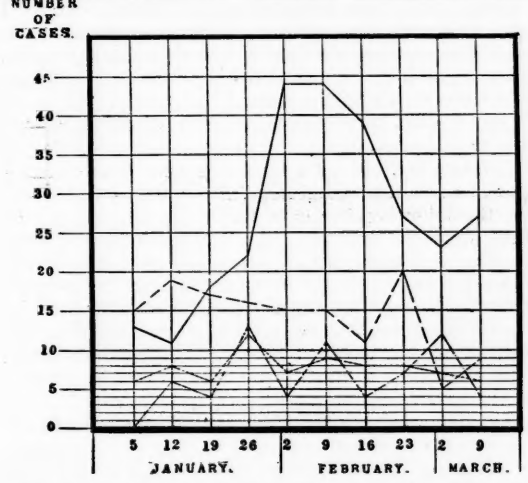


Chart 3.—Deaths from contagious diseases in Chicago for week ending Feb. 1, 1907. Scarlet fever, ———; whooping cough, ...; diphtheria, — — — —; measles, -·-·-·.

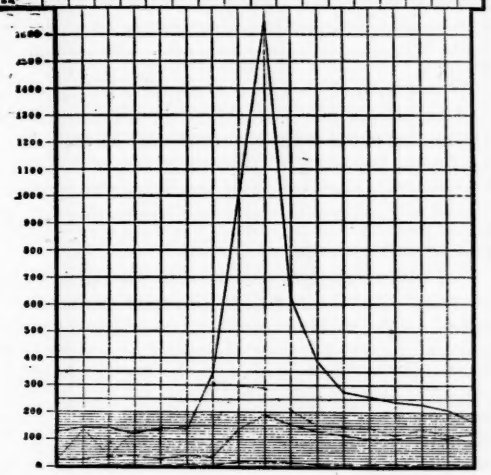


Chart 4.—Showing contagious diseases in Chicago. Scarlet fever, ———; whooping cough, — — — —; measles, -·-·-·; diphtheria, ...

Dr. Parkes, with much of this evidence in hand, urged the Department of Health of Chicago to investigate. Then, and not till then, was there a decline in the number of cases reported in Chicago. In February or March I was shown a letter by the manager of Depot A. This letter purported to come from the secretary of the Wisconsin State Board of Health and expressed the opinion that there was no reason why the "X" bottling plant should have been closed. I have tried to get a copy of this letter but failed.

It must be recognized that to Evanston and its department of health must be given the credit for checking the epidemic. The expense of the investigation was borne by the little city of Evanston. Dr. Parkes and his assistant, Dr. Craven, without authority outside of Evanston, and in spite of the passive opposition of the Department of Health of Chicago and the Illinois State Board of Health, were obliged to do their work not only outside of Cook County, but outside of the State of Illinois. If they had failed to prove their case it is not unlikely that the rich corporation would have at least caused annoyance in the courts.

The recently organized league of health officers is really, it seems to me, a monument to the inefficiency of the State Board of Health. The league is doing work which in other states is conducted by the state

board. This league is a most excellent mutual organization, and it has taken up the work started by Dr. Parkes to prevent a recurrence of our past affliction. At that time he required every dealer in Evanston to give a list of all persons handling their milk, either in Evanston or in bottling plants and a list of all farmers supplying the milk, each with his location, and the names of all physicians practicing in such location. In case of future trouble all members of the league will be promptly notified, and if the milk from a certain source is refused by one jurisdiction it will be refused by others.

The company owning Depot A puts up condensed milk which is shipped all over the country. The process of condensation does not necessarily, however, destroy disease germs. I am informed by the dairy division of the Department of Agriculture in Washington that in condensed milk sold in bulk it is probable that the spores of contagious diseases are not killed. In at least one case in Evanston no other source could be found than the use of condensed milk and cream from Depot A.

It is a well-recognized fact that if a company knowingly exposes a patron to injury the company is liable. In the case above mentioned of the M. K. & T. Ry. Co. vs. Raney, the Court of Appeals of Texas further held that since the agent who sold the ticket was an employé of the company and its representative, and the agent knew that he had smallpox, the company, therefore, knew it and it was liable.

But this liability is not alone to the patrons of the company. In the Supreme Court of Minnesota the case of Depue vs. Flateau was one in which the plaintiff called at Flateau's to inspect cattle with a view to purchase. Night having come on, he wanted to stay all night, but was refused permission. He was ill and too weak to care for himself. He was found the next morning nearly frozen to death. He sued for damages. The court held that: "whenever a person is placed in such a position with regard to another that it is obvious that if he does not use due care in his own conduct he will cause injury to that person, the duty at once arises to exercise care commensurate with the situation, and a negligent failure to perform the duty renders him liable for the consequences of his neglect."

In spite of the general denial by the state board (which, as we have intimated, is directly contradicted by the letter of the only state board inspector who really made an inspection), I think that I have given evidence which produces conviction in reasonable minds that our epidemic came in milk from "X."

Officers of the company were cognizant of conditions. When one at "X" was confronted with a small part of the evidence secured and was asked why they did so, he replied that they did not wish to injure the business. They were in position to know the facts and, to put it mildly, they kept silent. They did not use due care in their own conduct and so caused injury not only to their own patrons but to others who received the disease indirectly.

The company can not even plead their disbelief in the possibility of conveying the disease in milk. That does not excuse their deception, which made it less possible for the community to protect itself. That does not excuse the personal abuse of those who were seeking for facts. Due care was not used by the company in August and September in that they not only failed to inform Evanston officials of the true conditions, but in that they made affidavit that there was no case of scarlet fever there.

Up to the present, so far as I am aware, this rich company has done absolutely nothing to compensate either individuals or the community for loss of time and trade, for sickness and death, and for all the needless expenditures of money made necessary by this criminal negligence.

It is not claimed that the scarlet fever originated at "X" any more than it is claimed that smallpox originated in the M. K. & T. ticket agent. The facetious reasoning of the Illinois State Board of Health relative to the large number of unreported cases and lack of precautions to prevent the spread of the diseases is good, so far as it goes. Most of those mild cases and lack of precautions undoubtedly occurred at "X." It is not for us to show whence "X" received its infection, nor does it by one hair's breadth lighten the legal and moral liability of "X" and the milk company.

If the conclusions are correct, judging from this epidemic, the period of incubation, when milk is the cause, is from one to four days in most cases. Exact data are not available. According to the information at hand, "X" milk was last delivered in Evanston January 17. On January 18 there were twenty-four cases, but by January 22 there were only three, and thereafter the cases reported showed much smaller percentage of Depot A patrons.

This epidemic is not unique. In 1885, in the Marylebone district of London, there were sixty cases of scarlatina. It was found that the patients had just one thing in common—all used milk received from a model farm at Hendon. Mr. W. H. Power and Dr. Klein concluded that the fever originated in a disease of the cattle. In Dover the year previous a similar epidemic, it was agreed, came from infected cattle. In this county I find that there are numerous lesser examples in which observers supposed that the disease originated in cattle. In one case it was supposed to have come from drinking the water of a stagnant pond by the cattle. So far as I could learn, there was no evidence of disease among the cattle at "X."

In January, 1907, 63 cases of scarlet fever were reported in Boston, Cambridge, Somerville and Everett. In the following five days there were 485 cases. In three weeks the total was 717. It happens that the maximum was reached in Boston one day after that in the other places; in 84 per cent. of the cases the patients patronized one milk company, and the milk received by the company was retailed in Cambridge, Somerville and Everett one day ahead of Boston. This epidemic probably arose from a hitherto unsuspected case in a taster at the bottling plant.

In "the good old days" when the cow was turned loose in the morning, and herds were small, the danger of spread of disease through milk was not great. The time from the cow to the table was short, and one dealer had few patrons. Now, necessarily, the time is greater. At "X" one infected pail might easily infect five carloads. This puts on dealers and dairy men the necessity for far greater care. Stables must be more expensive. The expense of caring for the milk is greater. All this must be paid for, and we as physicians must teach the people this, as well as make demands on the dealer. A Boston dairyman who sold certified milk at 15 cents a quart found that he had lost money even at that price and quit the business.

If two bottling plants are located in one town the milk must be brought by wagon from a greater distance in order that each may get its full supply. The greatest danger is before the bottling plant is reached. It is not necessarily because of a "trust" agreement that we find only one bottling plant in a place. I strongly suspect that the recent cry of "trust" originates with such a farmer as Dr. Craven met one day. Dr. Craven demanded that suitable floors be put in the dairy barn, that it be made clean, and that proper provision be made for cooling the milk. The reply was that the business had been so conducted for twenty years. What was good enough for his father was good enough for him. Dr. Craven refused to permit this milk to be delivered in Evanston and was about to report the circumstances to Chicago. Now this farmer finds that he must quit the business or conduct it in a more cleanly and more expensive way, and so has complied with requirements.

The added price of milk is to a degree a form of life and health insurance.

Finally, this epidemic shows the necessity for a thorough organization of health officials, local, state and national, so that no possible question of authority may delay investigation and action. It also suggests that state boards of health should not be appointed by a non-professional executive, but that the members should be selected by the local health officers of the various states.

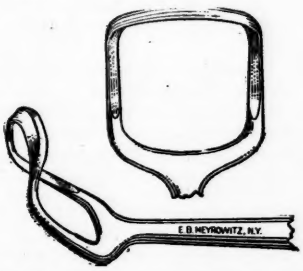
[EDITOR'S NOTE:—Comments on the above article, made by Dr. James A. Egan, secretary of the Illinois State Board of Health, will be found in the Correspondence Department of this issue.—ED.]

Clinical Notes

AN IMPROVED ADENOID CURETTE.

ARTHUR J. HERZIG, M.D.
NEW YORK CITY.

As it is almost impossible with the ordinary curette thoroughly to remove the lateral adenoid masses, I have devised an instrument which will enable the operator to do this completely at one introduction of the curette. The instrument is modeled after the Beckmann curette



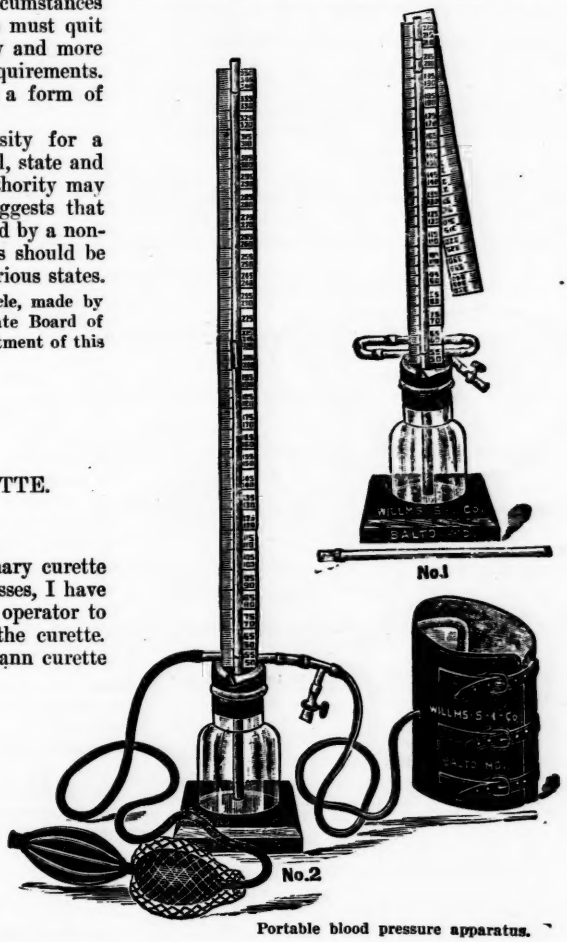
and differs from it in having two lateral cutting edges running half way down the sides. When the instrument is drawn along the hand no impression should be made on the skin by the cutting edges, hence any danger of removing or injuring the mucous membrane of the pharynx is done away with, and one is no more liable to cut the cartilages of the Eustachian tubes with this than with any other form of adenoid curette. The technic in using this instrument is slightly different from that required with other curettes. The patient is prepared for operation in the usual way, and the mouth gag is put in place; the curette is inserted as usual, but, instead of making downward cuts, lateral cuts are made, followed by a downward cut. In this way the lateral masses are first removed, and then the central mass.

2040 Seventh Avenue.

PORTABLE BLOOD-PRESSURE APPARATUS.

K. H. BEALL, M.D. AND E. M. MASON, M.D.
FORT WORTH, TEXAS. MONTGOMERY, ALA.

Having need for a portable blood-pressure machine and not being satisfied with the instruments now on the market, we have had an apparatus made which we believe to be the most satisfactory and practical sphygmomanometer for clinical use that has yet been devised.



Portable blood pressure apparatus.

Our instrument is patterned after the Riva-Rocci, as used in the wards of the Johns Hopkins Hospital; this we have put into a compact, portable form, reducing the liability of breakage practically to nothing. The component parts of the apparatus are simple and inexpensive, therefore the cost of any necessary repairs would be trivial.

An explanation is hardly necessary, as the accompanying illustrations clearly show the instrument ready for use and closed for transporting. The manometer tube is in two sections, connected by a rubber cuff and the scale is hinged, the break occurring at the 195 mm.

mark. In ordinary cases there is no need of putting on the extra joint of tubing. When not in use the manometer tube is closed by a glass plug, which fits into the rubber cuff, thus preventing the escape of the mercury.

If the apparatus is to be packed and unpacked frequently two small bull-dog clamps are handier for closing the tubes at the mouth of the bottle than is the rubber tubing shown in Figure 2. When the instrument is packed the arm cuff, which is a wide leather band, is folded around the tube and the two bulbs. The container measures only 3 by 4 by 9 inches.

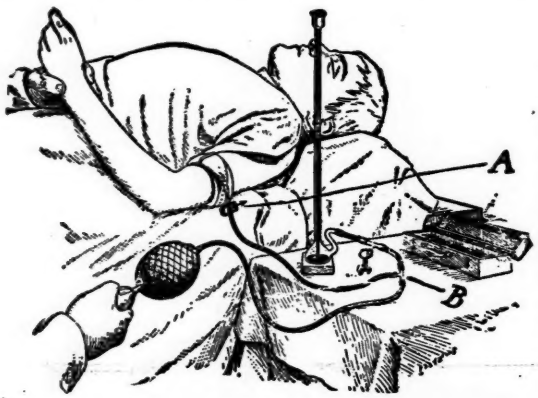
AN ACCURATE METHOD OF CONTROLLING THE PRESSURE OF THE BANDAGE IN BIER'S HYPEREMIC TREATMENT.

GORDON WILSON, M.D.

Associate Professor of the Practice of Medicine, University of Maryland; Visiting Physician to the Maryland Hospital for Consumptives; Physician in Charge of the Municipal Hospital for Consumptives.

BALTIMORE.

Those who have made use of Bier's treatment in inflammatory conditions of the extremities know that one of the greatest troubles in carrying it out has been the



Method of employing the sphygmomanometer to control the degree of hyperemia.

difficulty in applying the Esmarch bandage with just the right amount of tension, and in my experience I have always found it necessary to see the patient fifteen minutes after its application to make sure that it was neither too tight nor too loose. Another factor that must be taken into consideration when we leave the bandage on all night is that there is, with sleep, a falling of the blood pressure, and on this account a bandage that was not too tight for the patient while he was awake might be too tight during sleep.

While making some blood pressure observations with Cook's modification of the Riva-Rocci sphygmomanometer it occurred to me that by this means one could control absolutely and accurately the amount of pressure and feel sure that the bandage was applied correctly. It would also have the advantage that the bandage could be applied by a trained nurse or an untrained assistant in an accurate manner by simply instructing him or her how to take the blood pressure, then to allow the pressure to fall 5 or 10 mm. below systolic pressure, and tighten the screw cock at A (see cut) and disconnect the apparatus at B, leaving the inflated bag about the arm or thigh. In the short time that I have made use of this method I have found that with a pressure of 10 mm. less than the systolic pressure one can bring about a passive hyperemia that fulfils the conditions as defined by Bier, namely, that there should be warmth, cyanosis and enlargement, and that there should not be pain, blanching or coldness below the bandage.

In the discussion on Bier's hyperemic treatment at the German Surgical Congress two years ago, Bardenheuer,[1] of Cologne, called attention to the errors of technic, and said that only after he had exchanged assistants with Bier had his results been excellent. Klapp,[1] Bier's assistant, attributed the bad results reported in the discussion to lack of patience and technical errors. Smieding,[2] another of Bier's assistants, lays great stress on the importance of the right amount of pressure exerted by the bandage, and attributes the poor results obtained at times to the failure to apply the bandage just right.

ULCER IN MIDDLE THIRD OF THE ESOPHAGUS;

WITH ANATOMIC STRICTURE AND ESOPHAGOSPASM.

WILLIAM LERCHE, M.D.

ST. PAUL, MINN.

The scarcity of reported cases of this kind justifies, I think, the report of the following case:

History.—Mrs. S. E., age 56, xi-para, had one miscarriage; denies syphilis; had pleurisy and erysipelas many years ago. Five years ago she had a suppurating thrombophlebitis of the right leg, which kept her in bed for four months. About six months after this she had a choking spell while eating, and the food was regurgitated. Since then such spells have come on more or less frequently; sometimes there would be an interval of weeks between attacks. Both fluids and solids were promptly regurgitated; they never stayed down for any length of time. The attacks have become more and more frequent, although even now there are days when she has no trouble at all.

On two occasions, about three years ago, and one year and one-half ago, she brought up a considerable quantity of pus and fresh blood. For a couple of months after these attacks she was entirely relieved from any disturbance in swallowing. At times she can not get any food or drink down for two or three days. Soda water has relieved her at times. She is otherwise in good health.

Examination.—The patient has a pronounced anterior curvature of the spinal column. Examination of organs other than the esophagus, negative. The inlet to the esophagus admits a 14 mm. bougie with some difficulty. An obstruction is met with 32 cm. from the incisor teeth, which permits a 11 mm. bougie to pass. There is blood on the olive point on withdrawal. There is no obstruction below. Examination through the esophagoscope reveals a constriction at 32 cm., which is very narrow. On the right side, protruding from underneath the constriction, is seen a white, partly detached membrane, under which appears a bleeding ulcerated surface. The lumen is so narrow that I can not get a view of the part below the stricture, although the 11 mm. bougie passed through. On subsequent examinations, after dilatation, the ulcerated area is seen to extend nearly all around the wall, although it is most extensive on the right side. The esophagus above the constriction appears to be somewhat dilated, and measurements with my esophagometer show a dilatation of 60 cm.[1]

Repeated microscopic examinations of specimens taken from

1. Abstract in Prog. Med., December, 1906.
2. Trans. Nat. Assn. Study and Prev. Tuberc., iii, 1907.

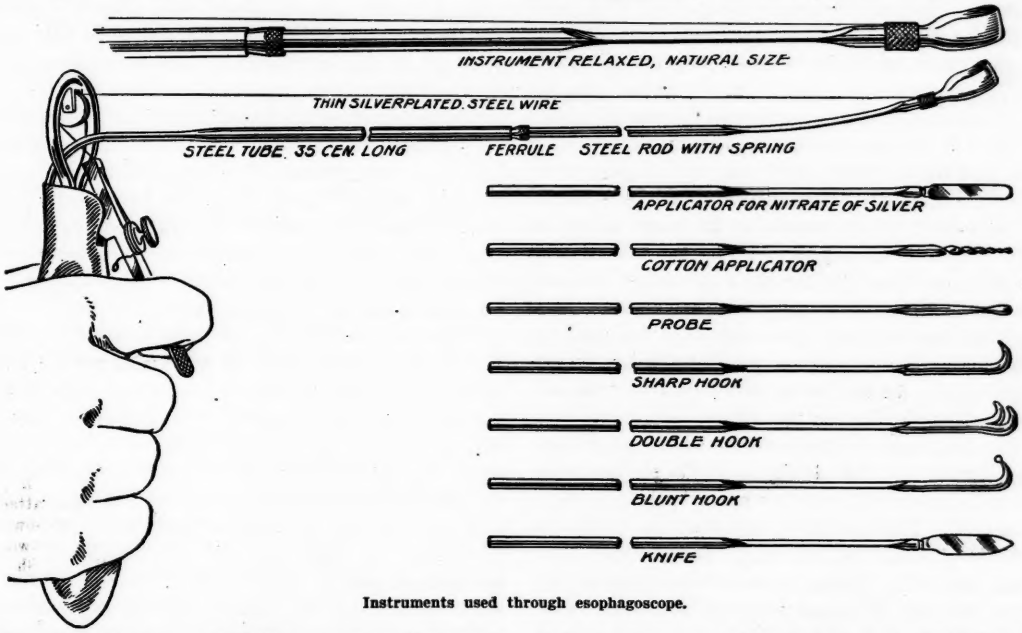
1. A cut of this esophagometer with description, together with report of three new cases of cardiospasm, appeared in The St. Paul Med. Jour., April, 1908.

the edge of the ulceration only show inflammatory changes, leucocytes and small cell infiltration.

We have here an ulceration of the mucosa of the esophagus, with an anatomic stricture causing esophagospasm above the stricture.

The etiology of this ulceration can not be determined with certainty, but the discharge through the mouth, on two occasions, of pus and blood, followed by relief of symptoms for a couple of months, speaks for an abscess with subsequent sloughing of the mucosa.

Treatment.—I have treated this case by bi-weekly applications of nitrate of silver melted on the applicator, through the esophagoscope. Later I have applied strong tincture of iodin. At present there is a smooth scar. I have also stretched the stricture with rubber silk-bag-dilators, using the apparatus, which I have constructed for this purpose.[2] These rubber silk-bag-dilators are 10 cm. long and straight, not thicker at the ends, like those I use for stretching the cardia. The sizes increase by 1 mm. up to 20 mm. The stricture in this case I have dilated to 17 mm. The patient has now no trouble with swallowing and is in good health.



Instruments used through esophagoscope.

The difficulty in manipulating any long instrument through a narrow tube, without obstructing the view, has led me to devise a set of instruments with which to operate through the esophagoscope (see cut). By pressing the trigger with the forefinger the lower end, beyond the spring, only is moved. The instrument can be lengthened and shortened at will by telescoping it. When used the whole shaft should be held firmly against the wall of the esophagoscope, opposite the field of operation, and the trigger manipulated. In this way the long instrument does not obstruct the view, and the lower end is under the operator's control.

With the curette I have been able to remove specimens for examination a number of times without any difficulty. Applications can be made exactly to the spot desired by using the cotton applicator or the tip for the nitrate of silver. The blunt and the sharp hooks, and the double hook, are for the extraction of foreign bodies. Forceps of different shapes and a galvanocautery for the division of hard rubber toothplates are operated on the same principle. When it is desired to change tips the ferrule at the distal end of the instrument is pulled back, the steel wire is unhooked and the ferrule is turned, after which the tip is pulled out and replaced by another. To the handle is attached the steel tube, 35 cm. long, into which the tips fit. By moving the ferrule the instrument can be adjusted to the length desired. These instruments are also for bronchoscopic work.

2. Am. Jour. Med. Sciences, October, 1907.

TRANSPOSITION OF ABDOMINAL VISCERA.

FRANK K. BOLAND, M.D.
ATLANTA, GA.

I wish to report a case of complete transposition of the abdominal viscera, found in the dissecting room of the Atlanta School of Medicine.

The subject was a male negro, about 40 years of age, and, unfortunately, his history is not obtainable. He died of pulmonary tuberculosis, but no decided pathologic changes were visible except in the lungs. The heart was directed to the right, with the innominate artery on the left side. All the abdominal organs were transposed, the liver being on the left, the spleen on the right, the cecum and appendix in the left iliac fossa, etc.

In a case like this, presenting puzzling symptoms in disease, the easily found position of the heart might suggest the location of the other viscera.

Indications for Theobromin.—C. Alvarez publishes a clinical study of the action of theobromin in asystoly in the *Revista de la Soc. Med.*, Argentina, October, 1907. He thinks there is nothing to be compared with it for recent asystoly and for asystoly free from complications, especially when the kidney is sound, and in all cases in which the pulse rate shows little modification. The theobromin does not accumulate in the system, and it is less dangerous than digitalis, he thinks. Unless the pulse is extremely irregular, he gives theobromin the preference in every case of asystoly, changing to digitalis in case the desired effect is not obtained with the theobromin.

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SATURDAY, APRIL 4, 1908.

RELIGIOUS THERAPEUTICS.

During recent years, and no doubt due to the increasing strain on the nervous system imposed by the economic and social conditions of the times, there seems to have occurred a marked increase in what are termed functional disorders of the nervous system. This group of diseases, indefinite in character, poorly classified, frequently confounded with organic troubles of various sorts, and requiring a treatment altogether different from the latter, is often a bugbear to the practicing physician. The reason is obvious. These disorders for the most part concern the mental state and in order to be properly managed a knowledge of psychology, normal and abnormal, is indispensable. It is not alone the trained neurologist and alienist who has to deal with this class of cases. By far the majority of them are first seen and treated by the general practitioner. It is a well-known fact that in no department of medicine is the average medical man so poorly trained as in psychopathology. In medical schools even to-day no adequate training is given in psychology. Little wonder is it, therefore, that the treatment of functional diseases is unsatisfactory. But physicians should see the reason and to a degree feel that they are not wholly without responsibility that patients of this class fall victims to all kinds of quackeries and cults. If the medical profession knew of a reliable treatment for functional disorders, Eddyism, for instance, could never have flourished as it has.

Because of the great increase in this class of diseases and the unsatisfactory condition of psychotherapy a widespread popular interest has been shown of late in this problem. Cults of various kinds have made tremendous strides, drawing their followers for the most part from the long established churches, so that even the latter are beginning to realize that something must be done.

As an example of an attempt to meet this problem in a practical way may be mentioned the work first started last year at the Emmanuel Church in Boston, and later undertaken at other cities, e. g., in Chicago by Bishop Fallows. In a recent number of *The Outlook*[1] Dr. Richard C. Cabot writes interestingly of this work and gives an account of the leaders, their methods and results. Also in *The World To-day*[2] Bishop Fallows tells of the work as carried on at his church in Chicago. Dr. Worcester and Dr. McComb, who first inaugurated and are at present conducting the work in Boston, received, it appears, their first suggestion years ago from Dr. S. Weir Mitchell, who believed that in certain cases the work of the minister of the gospel and the physician might be combined to advantage in the treatment of disease. In Boston the diagnosis and approval of a physician is required in each case in order to eliminate organic disease, and only so-called functional disorders are treated.

The psychical treatment is carried on by a system of education and training in autosuggestion, rest cure, work cure, psychoanalysis, etc. The patients report at regular intervals and direct personal attention is given. There are also social gatherings in the church, where suitable music is provided and from time to time addresses are given by eminent authorities on such questions as insomnia, nervousness, habit, suggestion, prayer and the like.

The results thus far, according to Cabot, are gratifying. Out of 123 cases in which the results are known, including neurasthenia, hysteria, alcoholism, sexual neuroses and psychoses, seventy-five have shown a distinct improvement. This is encouraging when one considers that many were chronic, stubborn cases often treated previously by several physicians. Bishop Fallows states that his results also are encouraging.

There is no doubt that in diseases like those mentioned much may be done by systematic psychic treatment, and one effective way of obtaining results may be appeal to the religious sense of the individual. Religion, of course, is here used in its broadest sense as the foundation and motive power of all that is worth doing and need not necessarily be restricted to Christianity as has been done in the work above mentioned. The same psychologic principles underlie other modes of treatment—faith healing, Eddyism, Dowieism and numerous other beliefs. But the method followed in Boston is a decided step in advance of most systems that attempt to heal, in that it requires the diagnosis of a physician. The leaders have a profound respect for medicine, believe in the use of drugs and other familiar therapeutic measures whenever indicated, and attempt to work in cooperation with rather than against the medical profession. They recognize the limitations of suggestion as a therapeutic agent, and on this account the work is to be commended.

1. Feb. 29, 1908.

FRESH AIR IN THE PREVENTION AND TREATMENT OF DISEASE.

There is a growing realization of the value of fresh air as a therapeutic agent. There is no doubt that many of the respiratory complications which play such havoc among patients suffering from exhaustive diseases are

2. March, 1908.

effectually prevented by the free admission of air to the sick room. While we have lost most of our fear of air as a producer of disease, it is not generally realized that the fresh air treatment has been a recognized and applied therapeutic measure among at least some members of the medical profession for the better part of a century.

Attention was called in a recent editorial[1] to the fact that one of the prize essays in the early days of the Medical Society of the State of New York suggested the advisability of cool, fresh air directly admitted to the room as a therapeutic measure in typhoid fever, and it stated very clearly the benefits that had been observed from this method of treatment. If the experiences at Bellevue Hospital for the last hundred years were to be collated it would be found that practically every ten years some thorough-going clinician has suggested the advisability of the fresh air treatment for patients suffering from exhaustive diseases.

A typical example of this is to be found in the case of one of the most distinguished members of the medical profession of the preceding generation, Dr. Alonzo Clarke. In the story of his life, written by Dr. Ellsworth Elliott,[2] the following paragraph shows what Dr. Clarke was doing with his typhus fever patients at Bellevue between 1850 and 1860. The lesson it contains deserves to be taken to heart by every physician who sees much of exhausting febrile disease and wishes to avoid respiratory complications. "It is interesting to read how he managed typhus fever in Bellevue Hospital. There were 250 cases constantly under his care, and as many more under the care of his colleagues. The mortality was great. Precautions against the draughts of air, for fear of pneumonia, were carefully adopted. Dr. Clarke, not having this dread, ordered that there should be the freest ventilation, with scrupulous cleanliness. Although it was winter, the windows were removed, stoves were placed before the open spaces to raise the temperature of the incoming air, clothing was increased, stimulants were given in moderate quantities, and other medicine mostly dispensed with. Of the 250 cases not a death occurred in the period of a fortnight. In two weeks they were convalescent. In other wards of the hospital where the management was unchanged the mortality was undiminished."

Evidently the idéa of fresh air for fever and respiratory disease is not new, and it is to be hoped that in the vicissitudes of medical opinion our growing enthusiasm for it will fasten it securely to therapeutics and prophylaxis for all time.

1. Our Forefathers' Knowledge, THE JOURNAL A. M. A., Feb. 8, 1908, 454.
2. Trans. N. Y. State Medical Society, 1887.

FURTHER OBSERVATIONS ON THE GENESIS OF GALLSTONES.

Recently the work of Kramer, Gérard, Baldwin and Lichtwitz on the origin of gallstones was reviewed in these columns.[1] Kramer was able to produce artificial gallstones in the test-tube by inoculating pure bile with *B. coli* and *B. typhosus*. The constituents of the stones, he stated, originates from the bile and is not due to an he stated, originate from the bile and are not due to an gall tract. He did not obtain the constituents of stones from bile inoculated with staphylococcus nor from sterile bile on long standing.

Continuing the work along these lines, Bacmeister[2] has added some new facts which are interesting and which he uses to explain the properties of gallstones and their occurrence under certain conditions. He found that *B. pyocyaneus* and *B. proteus*, as well as *B. coli* and *B. typhosus*, cause a precipitation of cholesterin, and also that on long standing the cholesterin separates out in sterile bile. In filtered bile it does so less rapidly than in unfiltered bile.

He was able to follow the successive steps in the process of cholesterin crystal formation with the microscope. If bile stands a long time, there appear droplets of myelin, at first extremely minute, gradually increasing in size and forming amorphous clumps of cholesterin. Fine needle-like crystals and also the flat typical crystals of cholesterin separate from the droplets directly or from the larger masses. This process may occur in sterile bile and in infected bile; in bile that contains epithelial cells the process proceeds much more rapidly. The author is therefore led to believe that the formation of cholesterin depends on autolysis of the bile, which process goes on slowly in sterile bile and is accelerated by the presence of protoplasmic bodies, especially epithelial cells and bacteria. This view is essentially different from that of Naunyn, who considered infection and desquamation essential, and it brings us back to the ideas of Thudichum, who fifty years ago explained the origin of gallstones on a purely chemical basis by assuming a disintegration of the bile with the formation of cholesterin and other substances.

The occurrence of myelin droplets (fluid cholesterin) in the epithelial cells as observed by Naunyn, Aschoff holds is due to the resorption of cholesterin from the bile by the cells and is not a result of the cell metabolism as has been assumed by so many.

Bacmeister contends that in most cases the first stone arising in the gall bladder is a cholesterin stone and due to stagnation of the bile. This furnishes favorable conditions for bacterial infection. When this occurs there arises as a result of the inflammatory process a marked proliferation of the mucous glands in the wall of the gall bladder and consequently a marked increase in the secretion of mucus. This mucus is rich in lime salts and furnishes the material for the formation of new stones and of layers on the surface of the cholesterin stones already present. This explains the occurrence of one large cholesterin stone often at or near the opening into the duct and many smaller stones rich in calcium in the fundus of the gall bladder. It also explains the

1. THE JOURNAL, March 14, 1908, p. 880.
2. Münch. Med. Wochschr., 1908, Nos. 5, 6 and 7.

nearly pure cholesterin nucleus often found in stones and the superimposed layers rich in lime salts. This view again differs essentially from that held by Naunyn, who assumed that the cholesterin stone was formed from the stones rich in calcium salts by infiltration of cholesterin and the displacement of the lime salts.

The work of Bacmeister, together with that of Kramer and Gérard, appears to contain real contributions to our knowledge of the origin of gallstones. Its chief value is in showing the significance of stagnation as the essential factor in the production of cholelithiasis and cholecystitis. To analyze more thoroughly the causes of this stagnation and to remove them are now the problems at hand.

THE FOOD AND DRUGS ACT AND DR. WILEY.

The Food and Drugs Act, the most important of the laws passed by Congress in recent years, is largely the result of the energy, persistency and especially the courage of Dr. H. W. Wiley, chief of the Bureau of Chemistry of the Department of Agriculture. On this bureau rests the responsibility for the enforcement of the act, or at least for the determination of certain fundamental questions underlying its enforcement. These questions, in the main, are technical and the manner in which they are decided has a very direct bearing on certain vested and commercial interests. It is not strange, therefore, that much opposition has developed on the part of some of these interests against the tentative decisions of the Bureau of Chemistry. Dr. Wiley has maintained that certain preservatives, which in the past have been added to many of our common articles of foods, are injurious to health and that their presence, therefore, constitutes adulteration in the meaning of the act. On the other hand, the canners of fruits and vegetables, meat-packers and others affected, assert that there is no evidence to support such rulings. They maintain, for instance, that the results of the experiments with the so-called "poison squads" are too indefinite to settle the questions here involved. A number of "experts" have come forward to help the manufacturers in their argument, and a somewhat voluminous literature has developed, especially in the trade journals. Appeals have been made repeatedly, not only to the Secretary of Agriculture, to which department the bureau belongs, but even to President Roosevelt. It is not surprising that both of these officials have found themselves unable to pass on the merits of these purely technical questions. In this dilemma the President has appointed a commission of five men experienced in chemistry, pharmacology, pathology, etc., to go over the various subjects in dispute and to render such advice as may be called for to settle the questions at issue. This board of referees is constituted as follows: Professors Ira Remsen, Baltimore; John Harper Long, Chicago; Christian A. Herter, New York City; Russell Henry Chittenden, New Haven, Conn., and Alonzo E. Taylor, San Francisco. The selection of such men is a guarantee that the advice given will be unprejudiced, wise and based on scientific and demonstrable data.

Unfortunately, the fact of the appointment of this board has been utilized by the enemies of Dr. Wiley in an effort to discredit him. Numerous articles have been published in trade journals picturing the chief of the Bureau of Chemistry as a fanatical tyrant who will now be overthrown, and intimating that this board has been appointed to "down Wiley," etc. It will be noticed, however, that the most vociferous of these journals are little better than house organs for certain industries, and the value of their opinions, therefore, should be discounted accordingly. Unfortunately, however, many newspapers have been misled by these special pleaders into making the same statements and thus, in turn, misleading the public. One of the individuals misrepresenting the reasons for the creation of this board, and most active in doing all he can to prejudice the public against Dr. Wiley, is a representative of the Pacific Coast Borax Company, who sometimes signs himself "H. H. Langdon" and sometimes "H. L. Harris." This man is losing no opportunity to get something in the newspapers that will carry the impression that Dr. Wiley is to be forced to resign if he does not resign voluntarily. The reason for such misrepresentations is not hard to find. Should one of Dr. Wiley's rulings be enforced, the people of the United States might be relieved of the necessity of consuming with their food-stuffs the vast quantities of borax compounds now used, and the business of the Pacific Coast Borax Company might suffer as a result.

It may be that Dr. Wiley's views in some respects are unnecessarily extreme, as is asserted by some manufacturers. But those who know him well, who know how thoroughly he has investigated the many-sided questions involved, and who appreciate his large knowledge, obtained from actual observations of the adulterations and frauds connected with foods, drugs and liquors, believe otherwise. Of his capability, energy, courage and, above all, honesty of purpose, no one entertains a doubt. The President of the United States, it is well known, has paid tribute to the great service which Dr. Wiley has rendered the country in working for the food law and other measures looking to the health of the public, and it is certain that President Roosevelt did not create this board to "down Wiley."

The personnel of the new board is sufficient guarantee of both its ability and its honesty. If Dr. Wiley's decisions are fair and just and are based on demonstrable scientific fact, they will be indorsed by the board. If, on the other hand, the board can show that any of his views are scientifically unsound, Dr. Wiley will be the first man to admit it. This board has been created to cooperate with the chief of the bureau of Chemistry and not to antagonize him or to nullify his dicisions.

THE EASTERN NEW YORK CUSTODIAL ASYLUM.

The commission appointed about twelve months ago by Governor Hughes to select a site for the Eastern New York Custodial Asylum, has submitted its report, which makes a comprehensive and satisfactory document. This body appears to have gone about its task with a singularly clear conception as to what is needed, since no feature has been overlooked or omitted. The commission is to be greatly commended for calling to its aid the advice of expert engineers and landscape architects to pass on some of the many important practical problems that lie at the very foundation of institutional construction. Mr. John C. Olmsted, of Brookline, Mass., and Mr. Emil Hinchling, architect and engineer respectively, have given good advice, which we hope may not be lost when the work of building begins.

An important recommendation is that about twelve hundred acres of land shall be acquired for the new institution. This is commendable, and it would be better if the acreage could be raised to 1,500 or 1,800. An ample supply of good water is not omitted. Sites have been secured in the past that were devoid of this essential, and before work could be commenced, the state had to pay out a very large sum of money for that which should have been incorporated in the original purchase.

A series of resolutions passed at the meeting of the Medical Society of the County of New York, March 23, 1908, embodies some excellent reasons for cordially supporting the proposed measure. It appears that the existing state custodial institutions at Rome, Syracuse, Newark, and Sonyea, respectively, with a collective authorized capacity for only 3,183 inmates, now house 3,250; that over 1,000 applicants are on the waiting list, and that 1,808 patients are at present improperly confined in state almshouses, not to mention the 20,000 persons in private homes, who should be under state custodianship for their own and the community's protection. Moreover, the location selected has the great advantage of being easily accessible from New York by boat and rail at a cost not exceeding $1 for the round trip, a matter of great importance, not only to the department of public charities, which is at present mulcted in $25 transportation for each patient sent under charge of an attendant to the Sonyea Colony, but also to the distressed friends, for most of whom, residing as they do in the vicinity of Greater New York, the expense attendant on visiting patients is prohibitive. That this is no imaginary hardship is demonstrated by the constant pitiful pleading of friends to have their sick ones retained in the accessible city institutions instead of being sent away out of reach.

So pressing is the need for this new institution that it is to be hoped nothing will stand in the way of its development. At the same time no beginning should be made until a complete topographical map of the entire plant shall have been made locating each house, all roads, establishing the various groups, fixed grades, sewer and water lines, and till provision is made for amply securing the one and disposing of the other. In other words, let the institution be built on a systematic plan—one that may be made to include the developments.

Finally, let the legislation omit the word "asylum," which is obsolete and harmful in the works of modern charity, and change the name either to the one recommended by the commission, "The Haverstraw State Colony," or preferably to one that will perpetuate in New York State the memory of a worthy citizen. We suggest the name of Seguin, who was a useful worker in the field of the training of backward children.

SOUTH CAROLINA PRACTICE ACT AMENDED.

The South Carolina Legislature has passed the amendment to the medical practice act asked for by the South Carolina Medical Association. The amendment authorizes the State Board of Medical Examiners to revoke licenses when just cause is shown. The "five-year clause" in the old law, exempting physicians who have been engaged in practice for five years, has been eliminated. Osteopaths are required to qualify before the State Board of Medical Examiners, under the same conditions as any other persons who wish to treat the sick, except that they are exempt from examination in materia medica, therapeutics and major surgery. These changes greatly strengthen the medical practice act of the state. The significant feature is that exactly the same bill was introduced a year ago and failed of passage, although the personnel of the legislature of 1907 was practically identical with that of the legislature of 1908. Commenting on these facts the *Journal of the South Carolina Medical Association* says: "A great transformation has taken place in the attitude of the legislators in regard to medical legislation. . . . For many years this legislation has been urged. The profession has begged and pleaded for its enactment, but until now to no avail. . . . To whom but the recognized medical profession can the statesman turn for aid in the solution of problems affecting the public health? . . . Our legislature has had the wisdom to recognize this truth, and in a spirit of far-seeing and broad-minded patriotism it has deferred to our medical profession for its judgment on these momentous questions and in so doing it has wrought even better than it knows, and has earned the gratitude of every citizen from the greatest to the humblest." The physicians of South Carolina are to be congratulated on the results achieved, and especially on the closer relationship which now exists between the medical profession and the representatives of the people—the legislature. This united action of the profession, combined with the cooperation of an enlightened public, gives promise of better conditions in the future in public health affairs.

A LAYMAN'S VIEW OF OSTEOPATHIC LEGISLATION.

It is interesting to note the comments made by the lay press on proposed legislation along medical lines. Not infrequently the editor strips the question of all scientific aspects and states the case in the language of

common sense. The March *Journal of the Medical Society of New Jersey* quotes as follows from an editorial in the *Asbury Park Journal* on the proposed osteopathic bill: "The rule qualifying doctors to attend patients should be based on a thorough knowledge of the fundamental laws of medicine and surgery. The practice by the osteopaths of manipulation should not excuse them from knowledge of the general subjects on which allopaths and homeopaths are examined, and their plea to be called doctors without examination by the state board is not deserving of support." This point should be emphasized wherever an attempt is made to give some sect the rights and privileges of physicians without requiring them to give evidence of possessing the necessary qualifications. If applicants can demonstrate that they possess the same knowledge of fundamental subjects required of medical practitioners, there can be no legal objection to their practicing any form of treatment on which they and the patients agree. The inconsistency of the osteopathic demand is that they ask recognition as legally qualified practitioners and at the same time demand the right to specify on what subjects they shall demonstrate their knowledge. By the same reasoning any sect or cult might arise and demand examination on subjects of its own devising as a basis for legal recognition as scientific practitioners of medicine. If osteopaths or members of any other sect desire to secure the rights and privileges of legally qualified physicians let them demonstrate possession of the same degree and quality of knowledge demanded of all other practitioners.

A NOSTRUM TRUST.

The statement that a New York firm of lawyers is circularizing proprietary medicine owners, on behalf of "a group of gentlemen who are organizing a corporation with substantial financial backing to acquire the good will and business of a number of proprietary medicine concerns" has been given wide publicity. The secondary aim of this project—the primary aim, of course, being the exploitation of the credulity of the public when in that state of hyperesthesia induced, as is well known, by protracted or serious illness—appears to be twofold, viz.: to lessen expenses, by centralization, as regards rent, cost of distribution, advertising, by the elimination of the middleman, etc., and to substitute for "the present isolated, and, in many instances, antagonistic interests," a combination "sufficiently strong to meet such unfriendly criticism as has been the lot of many proprietary articles in past years." The "detailed plan of organization" published contains one or two frank admissions that we are glad to welcome, and we hope that the widest publicity will be given to them. The statement is vouchsafed that *"next to the merits"* (italics ours) "of the preparations themselves, judicious and elaborate advertising is the most vital element of a successful remedies business." The restraint and moderation of this claim, however, are somewhat marred by the succeeding admission that "the patent medicine business is one which prospers by the use of advertising or *perishes through lack of it."* (Again italics ours.) This admission that advertising is absolutely essential to the success of the "patent medicine" business clearly demonstrates that for reasons of policy the "group of gentlemen" put the cart before the horse in making "judicious and elaborate advertising" secondary to the "merits" of the preparations themselves, for it is well known that some highly prosperous (and well-advertised) nostrums are altogether devoid of any merit whatever.

THE AMERICAN HEALTH LEAGUE.

Some time ago we referred to the fact that the Public Health Defense League was about to publish a journal. This league has now amalgamated with the American Health League, and the first number of *American Health,* its official organ, is now before us. It contains, among other things, the address of Prof. Irving Fisher and part of the address of Prof. W. H. Welch at the meeting of the American Association for the Advancement of Science, last January. The present membership of the league is about 3,000. The minimum subscription of $1 per annum places it within reach of all. Applications for membership should be forwarded, with remittance, to the Treasurer, Title Guarantee and Trust Company, 176 Broadway, New York City. It is desirable that as many physicians as possible, by joining the league, should lend their material and moral support to an organization that is likely in the near future to became a powerful factor in the betterment of the national health.

Medical News

ARKANSAS.

State Society Meeting.—The Arkansas Medical Society meets in Little Rock, May 13, 14 and 15, under the presidency of Dr. Charles C. Stephenson, Little Rock.

Hospital Notes.—The new Florence Infirmary, Pine Bluff, was turned over to its lessees, March 1. The building is a three-story brick structure, containing 46 rooms, and has been constructed at a cost of nearly $20,000. Dr. Arthur C. Jordan is in charge of the institution and Dr. John S. Jenkins is his assistant.

Personal.—Dr. Thad Cothern, Walcott, recently took a poisonous tablet by mistake, and is still suffering from the effects. ——Dr. Henry N. Dickson, Paragould, sustained a broken leg in a runaway accident, February 24.——The barn of Dr. William H. Moorhead, Stuttgart, and contents, valued at over $3,000, was destroyed by fire, March 12.

CALIFORNIA.

State Medical Society Meeting.—The Medical Society of the State of California will meet April 21 to 23 at Coronado Beach Hotel, Coronado, San Diego County.

Communicable Diseases.—Several cases of measles are reported in Antioch.——An epidemic of measles, chickenpox and scarlet fever has caused the closure of the grammar school of Redwood City for ten days.

May Donate Library.—At a recent meeting of the Pasadena Branch of the Los Angeles County Medical Society, the question of loaning the medical library, at present kept in the Public Library Building, to the Barlow Medical Library, Los Angeles, was brought up. The plan is to donate the library to the Barlow Library, or to loan it until the administration building of the Pasadena Hospital is completed.

Plague Situation.—The following official statement was given out March 18, signed by the mayor and Surgeon Blue of the Public Health and Marine-Hospital Service: "The undersigned are gratified to state that the plague situation is very much improved and is still improving, there having been since the first day of January of the present year but two bacteriolog-

ically verified and but three clinical cases of plague, with only one death, since the beginning of the year. There is every prospect that by the time the fleet anchors in the Bay of San Francisco the city will be cleaner than it ever has been in its history."

Personal.—Dr. Elmer E. Stone, superintendent of the Napa State Insane Hospital, was exonerated, March 17, by the board of directors, on the charges made against him. Dr. George W. Ogden, fifth assistant physician at the hospital, has left the institution.——Dr. Homer C. Edwards, Oakland, who recently underwent a serious surgical operation, is convalescent, and has resumed practice.——Dr. Conrad Richter, San Francisco, has been appointed surgeon of the Pacific Mail steamship *China*, succeeding Dr. Cyril E. Lewis, transferred to the *Manchuria*, relieving Dr. Meadows, resigned.——It is understood that Dr. William A. Cundy, Pasadena, has received about $4,000, in the settlement of the estate of Mrs. Fanny Taylor, Long Beach.——Dr. Thomas J. Cox, Sacramento, was operated on for appendicitis at the Mater Misericordiæ Hospital, March 16.

COLORADO.

Northwestern Alumni Banquet.—The Colorado alumni of the Northwestern University Medical School, Chicago, held their annual banquet in Colorado Springs, March 21. Dr. Amos R. Sollenberger, Colorado Springs, is president of the Association; Dr. Willard Lucas, Pueblo, vice-president, and Dr. C. Blaine Ackley, Denver, secretary. Dr. D'Orsay Hecht was the representative of the faculty at the banquet.

Personal.—Dr. Caroline D. John, Denver, who fractured her scapula, several weeks ago, has recovered and resumed practice.——Dr. John F. Roe, chief surgeon of the Rio Grande Hospital, Salida, for more than seven years, has resigned, to become assistant chief surgeon to the Rio Grande System, Denver, vice Dr. James B. Devlin, deceased.——Dr. Claude C. Keeler, one of the county physicians of Denver County, has been discharged, in order to reduce expense.

DISTRICT OF COLUMBIA.

Smallpox.—During the week ended March 21, 18 new cases of smallpox were reported in Washington. The patients were all negroes and were removed to the Isolation Hospital.

Personal.—Dr. Charles W. Franzoni and Thomas C. Smith were presented with loving-cups at a meeting of the Medical Society of the District of Columbia, March 18.——Dr. Charles S. White, superintendent of the Emergency Hospital, Washington, has tendered his resignation to take effect April 15. He is to be succeeded by Dr. Ernest F. Magruder.——Dr. Harrison Crook, Washington, was awarded a verdict of $4,476, March 13, against the Baltimore and Ohio Railroad for services rendered to victims of the Terra Cotta disaster. Dr. Crook sued the company for $6,361.

ILLLINOIS.

Tuberculosis Prevention.—The Illinois State Board of Health has issued the seventh edition of its valuable circular on "The Cause and Prevention of Consumption." This circular is a practical guide for the consumptive and his associates, dealing little in generalities and theory, but devoting attention to the minor details of life, on which in reality, the protection of the well and the recovery of the sick depend. The circular comprises 60 pages of printed matter, and the subject matter is presented in clear and simple terms, so as to be easily understood even by those of only modest educational attainments.

Chicago.

Smallpox.—Of the 19 individuals who were taken to the Isolation Hospital during March, 17 were unvaccinated, and the other 2 had been vaccinated more than 35 years ago, and had not been revaccinated.

Contagious Disease Situation.—During the week ended March 28, 205 cases of measles, 105 cases of diphtheria, 84 cases of scarlet fever, 56 cases of chickenpox, 39 cases of whooping cough and 20 cases of typhoid fever were reported to the department, showing an increase in diphtheria of 30 cases, and in measles of 73 cases, and a decrease of 15 cases in scarlet fever.

Deaths of the Week.—The deaths for the week ended March 28 numbered 660, equivalent to an annual mortality of 15.89 per 1,000; 57 more than for the preceding week, and 84 fewer than for the corresponding week of 1907. Of the deaths reported, 104 were due to pneumonia, 83 to tuberculosis, 81 to heart diseases, 40 to violence (including suicide), 37 to nephritis, 34 to diarrheal diseases, 33 to nervous diseases, 28 to bronchitis, and 24 to acute contagious diseases. Of the latter, diphtheria and scarlet fever caused each 8 deaths, and measles and whooping cough, each 4.

New Tuberculosis Hospital.—On April 7 the people vote on a bond proposition, which includes plans for a new consumptive hospital, to be built by Cook County. The present institution at Dunning is to be turned over to the state. During 1907 and up to March 28, 1908, the Cook County Institutions cared for about 2,805 out of approximately 8,000 tubercular patients of the county, or about one-third. Of the 350 tubercular patients now cared for by Cook County, 40 are quarantined at the poorhouse, as beds elsewhere are unavailable. A hospital for late cases of tuberculosis surpasses all other measures in the fight against disease, inasmuch as it limits the contagion.

A Uniformed Health Department.—It has been decided to divide the city into six districts, each district being in charge of a medical inspector, who will devote his entire time to this work. All the employés of the department will wear a uniform after April 1. Those below the grade of medical inspector will wear a blue blouse, with a single row of distinctive brass buttons, and a black soft felt hat. The medical inspectors will wear a double-breasted coat, with velvet collar and brass buttons, with a single gold star on the collar, and a black soft felt hat. The ambulance surgeons will wear a red cross on the left sleeve. Heads of departments will wear the same uniform as the medical inspectors, with two stars on the collar, and the commissioner will have three stars and a white soft felt hat.

INDIANA.

Blow for Itinerants.—The city council of Fankfort, at its meeting March 8, passed an ordinance, levying a license of $20 per day on all transient merchants and $10 a day on itinerant and nomadic venders of medicine.

Want Law Enforced.—Members of the Fort Wayne Medical Society, at its meeting March 10, made an appeal to the mayor and the board of safety to enforce the city ordinance against spitting on the sidewalk, as the ordinance had been allowed to become a dead letter.

Personal.—Dr. Andrew J. Chittick, Burlington, is reported to be seriously ill and to have been taken to Indianapolis for an operation.——Drs. Clifford Hirshfield and H. K. Bonn have been selected as county physicians of the new Methodist Episcopal Hospital and Deaconess Home, Indianapolis, to be opened about May 1.——Dr. John G. Wishard, formerly of Indiana, chief of the medical staff of the Shah of Persia and chief surgeon of the Presbyterian Hospital at Teheran, has been visiting in Warsaw.——Dr. Carl Flucks, Saint Wendells, has been awarded a verdict of $2,000 against the St. Louis, Iron Mountain & Southern Railroad for injuries received Sept. 5, 1907, on a train of the defendant company, leaving St. Louis, in which Dr. Flucks suffered a fracture of five ribs.

Communicable Diseases.—Measles is reported to be epidemic in Terre Haute.——Measles and whooping cough are reported epidemic in and around Clay City.——The prevalence of smallpox in Linton has caused the mayor to order the closure of all schools and places of amusement and public gathering.——At Franklin, where 13 cases of smallpox have been reported, all of mild type, all schools and places of public gathering have been closed.——Seven cases of smallpox were discovered in one family in Gas City, March 15.——Scarlet fever and diphtheria have broken out in Benton.——Scarlet fever is reported epidemic in Lockport neighborhood.——Mumps is reported to be epidemic in and around North Webster.——Measles is said to be very prevalent at Seymour.——During February 200 cases of measles were reported in Montgomery County.——There are said to be 33 cases of scarlet fever in Fort Wayne.——There have been more than 30 cases of scarlet fever at Ligonier, but the epidemic is now said to be abating.——Several cases of scarlet fever, all of mild type, are reported at Benton, and all the churches and schools have been closed.——Scarlet fever, diphtheria and smallpox are reported from Wakarusa.——Diphtheria is said to be prevalent south of Middlebury.——The prevalence of diphtheria has caused the closure of the schools at Urbana and several district schools in the vicinity.——A number of cases of smallpox are reported in Blue Lick neighborhood.——Several new cases of smallpox are reported near Nappanee.

IOWA.

State Medical Society Meeting.—The annual meeting of the Iowa State Medical Society will be held at Des Moines May 20-22, instead of May 13-15, as previously announced. Headquarters will be held at the Savery.

Inspection of Medical Colleges.—A committee of the State Board of Health of Iowa, consisting of Drs. Albert C. Moerke, Burlington, Alfred P. Hanchett, Council Bluffs, and Bert L. Eiker, Leon, has just completed an inspection of the medical colleges located at Keokuk, Iowa City, Des Moines and Sioux City. The committee will report at the next meeting of the board, to be held early in April.

KENTUCKY.

Medical Board Meeting.—At the annual meeting of the medical board of Deaconess Hospital, Louisville, March 19, Drs. Gavin Fulton and David C. Morton were elected members of the board. After the meeting a banquet was tendered by the board of directors, when the general outlook of the hospital was discussed from various viewpoints.

Vaccination Suit.—Lucy Elam, operator of a machine for re-drying tobacco in Lexington, has sued the city of Lexington, the board of health and Drs. Nathan R. Simmons and Thomas A. Shannon for $5,028, alleging damages to that extent through compulsory vaccination. The $28 is for loss of twenty eight days of labor at $1 per day, and the balance of $5,000 is for "bodily and physical pain and mental anguish."

Tuberculosis and State Board Bills Vetoed.—Governor Willson has vetoed the Watson bill, which was prepared by the State Board of Health under the direction of the secretary, Dr. J. N. McCormack. The governor stated that the treasury was too depleted to allow this extra expenditure. For the same reason the governor says that he will veto the bill passed by the legislature to establish a state sanatorium for tuberculosis. The bill was endorsed by the boards of health of the state, and by the greater part of the profession.

LOUISIANA.

Tulane Alumni Notice.—The alumni of the Medical Department of the Tulane University of Louisiana propose to give a Stanford E. Chaille jubilee on May 19 and 20, to celebrate the completion of the fiftieth year of his service as dean of the medical department. Professor Chaille retires from the faculty and deanship at the end of the current year. It is proposed to establish a Chaille Memorial Fund from the alumni and friends of the Tulane University, the funds obtained to be used for a dormitory for medical students and the revenue derived to be used for the support of a chair of physiology or hygiene, to be named after Dr. Chaille. It is hoped that a subscription of $15,000 or $20,000 will be made for this purpose.——All Tulane members who will attend the session of the American Medical Association, June 2 to 5, in Chicago, are urged to communicate with Dr. Hugh B. Williams, 100 State Street, with a view to the assembly of Tulane men during the session.

MARYLAND.

Anti-Christian Science Bill Signed.—The governor of Maryland on March 26 signed the bill abolishing the practice of "Christian Science" in Maryland. By the provisions of this bill it is made illegal for Eddyites to treat the sick by their methods if they make a charge for their services.

Personal.—Dr. Irvin M. Wertz, Williamsport, has been appointed physician to the Washington County Almshouse (Bellevue Asylum), vice Dr. William B. Morrison, Hagerstown, who has held the position for six years.——Dr. Samuel Clagett, Knoxville, has been appointed local physician for Frederick County for the Baltimore & Ohio Railroad.

State Society Meeting.—The annual meeting of the Medico-Chirurgical Faculty of Maryland will be held in Baltimore, April 28 to 30. Dr. Joseph D. Bryant, New York City, president of the American Medical Association, will deliver the annual oration. Two symposiums have been arranged, one on "Surgery of the Chest," and the other on "Modern Therapeutic Measures." Prof. E. F. Schaefer, Edinburgh, will deliver the Herter lectures at the Johns Hopkins University, April 27 to 30, and the members of the Faculty have been invited to attend. A banquet will be held at the Hotel Stratford immediately after the annual oration.

Baltimore.

To and from Europe.—Dr. J. Morris Slemons sailed for Europe March 27.——Dr. Francis C. Goldsborough has returned after a six months' stay abroad.——Dr. H. Barton Jacobs sailed for France March 25.

Thief Convicted.—"Dr." E. B. Ernst, claiming to be from Denver, Colo., is said to have been found guilty March 27 of stealing books and instruments from lawyers and physicians' offices, and to have been sentenced to seven years' imprisonment in the penitentiary.

No Mosquito Larvæ.—Dr. William N. Hill, chief of the "mosquito brigade," reports that as a result of the thoroughness with which war has been waged against the mosquito during the summer and fall of 1907, no mosquito larvæ are to be found within 20 miles of Baltimore.

Appropriation for Faculty Building.—The legislature has appropriated $25,000 to the Medical and Chirurgical Faculty of Maryland for the building of its new home. The faculty asked for $100,000 for this purpose.——The $32,000 appropriated by the legislature to the "regents of the University of Maryland" is to be divided between the University of Maryland Medical School, Baltimore Medical College, College of Physicians and Surgeons and the Maryland Medical School. These institutions have been receiving this amount from the legislature for several years.

MASSACHUSETTS.

Damages Against Physician.—In the case of Edward Lefebre, who sued Dr. Edward F. Gleason, Boston, for $10,000, for destroying the eyesight of one of his eyes, by an accidental gunshot wound, the verdict was for $4,500.

Physicians Organize.—Thirty physicians of Dorchester met recently and organized the Dorchester Medical Society, with Dr. Madison T. Thurber, president; Dr. Robert M. Merrick, vice-president, and Dr. Henry F. R. Watts, secretary-treasurer.

Hospital Notes.—The fourteenth annual report of the Melrose Hospital Association shows receipts for the year of $9,615 and expenditures of $9,268.78. The hospital building fund now amounts to more than $21,000, and there is a fund of $25,000 available to build the new modern building, with a special ward for children, on condition that a corresponding amount be raised in Melrose.——At the annual meeting of Franklin County Hospital board, Greenfield, Dr. Enoch G. Best, Greenfield, was elected president, and Dr. Charles L. Upton, Shelburne Falls, vice-president.

Personal.—Dr. Reginald Heber Fitz, Hersey professor of the theory and practice of physic in the Harvard Medical School, will retire from teaching at the close of the present academic year.——Dr. A. T. Shoonmaker has been re-elected a member of the Westfield board of health.——The Andover board of health has reorganized with Dr. John A. Leitch, chairman, and Dr. Charles E. Abbott, secretary. The new member, Dr. Jeremiah J. Daly, also qualified.——Dr. and Mrs. Frederick H. Packard, Belmont, are in Paris.——Dr. George Arthur Craigin, clinical instructor in pediatrics in the Harvard Medical School, has resigned, to take effect February 1.——Dr. Charles J. Dowling, Springfield, has been reappointed medical inspector of the public schools, vice the late Dr. Charles F. J. Kennedy.——Dr. and Mrs. John F. Welch, Quincy, have returned from St. Augustine, Fla.

MISSISSIPPI.

Campaign Against Illegal Prescribers.—The State Board of Pharmaceutical Examiners has inaugurated a campaign against illegal pharmacists and prescriptionists.

State Association Meeting.—The annual meeting of the Mississippi State Medical Association will be held April 14, 15 and 16 in Natchez, under the presidency of Dr. Robert S. Curry, Columbus. On the evening of the second day Dr. J. N. McCormack, Bowling Green, Ky., chairman of the committee on organization of the American Medical Association, will deliver an address on "Things About Doctors which Doctors and Other People Ought to Know."

A Narrow Escape.—The Davrok optometry bill came near being made a law by the legislature which has just adjourned, inasmuch as it passed the house without opposition, was defeated in the senate, but passed on reconsideration, after an explanation by the "scientists" present. It was again reconsidered, however, and indefinitely postponed after a discussion over an amendment exempting Confederate veterans from the workings of the bill. A few of the county societies passed resolutions against the bill, but the medical profession as a rule seemed apathetic.

State Board of Health Bill Passed.—The State Board of Health appropriation bill was passed by the state legislature March 10. This gives the board $5,000 a year for expenses and $2,500 a year to use in case of an outbreak of infectious or contagious diseases.——In the senate the recommendation of the State Medical Association to limit the membership of the

State Board of Health to ten members, who were to be named by that organization, was rejected. Under the existing law five members of the board are named by the association, and the remaining eight members, one from each congressional district, are selected by the governor.

NEBRASKA.

Smallpox.—Smallpox is reported to be prevalent at Avery, where 12 cases are under quarantine.

State Society Meeting.—The date of the Nebraska State Medical Association meeting, originally set for May 5 to 7, has been changed to May 19 to 21.

Sustained in Use of Pass.—Judge Thomas on March 13 directed a verdict against the State of Nebraska, in the case of Dr. David T. Martyn, of Columbus, who was being prosecuted under the state law, for accepting a pass from the Union Pacific Railroad. It was shown that Dr. Martyn had an indeterminate contract to do work for the railroad, with a salary of $25 per month and an annual pass.

Casualty Association Meeting.—The Physicians' Casualty Association organized six years ago in Omaha, held its annual meeting February 29, when it was reported that more than 200 claims, amounting to $40,000, had been paid for accidental injuries. The following officers were elected: Dr. De Witt C. Bryant, president; Dr. Dellizon A. Foote, vice-president, and Drs. Robert A. Gilmore, H. Leroy Crummer and Charles C. Allison, directors.

County Society Meeting.—At the annual meeting of the Otoe County Medical Society, held in Nebraska City, March 6, the following officers were elected: President, Dr. Arthur P. Ginn; vice-president, Dr. M. M. MacVean-Edmonds; secretary-treasurer, Dr. Frank S. Maxwell; delegate to the state society, Dr. Claude Watson; alternate, Dr. C. Frederick Stockert; and censors, Drs. William M. Neal, M. M. MacVean-Edmonds, all of Nebraska City, and Dr. Christian T. Gritzka, Talmage.

NEW JERSEY.

Filtration System for Burlington.—At a recent meeting of the Burlington city council it was decided to establish a gravity filtration system. The cost will be about $50,000.

New Health Board.—The state senate on March 11 passed a bill abolishing the State Board of Health and the State Sewage Commission and creating a new board, to be called the State Board of Health, to assume the duties of the two boards abolished.

Communicable Diseases.—During February, 17 cases of typhoid fever were reported to the Gloucester board of health. ——Measles is said to be very prevalent throughout Gloucester County.——The board of health of Cold Spring has ordered the various lodge halls closed on account of the prevalence of measles.

NEW YORK.

Attempt to Evade Civil-Service Law.—A bill has passed the assembly which seems to be an attempt to circumvent the civil-service law. This bill provides for an amendment to the laws of 1900 under which the State Sanitarium for the Treatment of Incipient Tuberculosis was established at Ray Brook. It is stated that the trustees of the institution shall have power to select as superintendent of the hospital "a well-educated physician, not a member of the board of trustees, a graduate of a legally chartered medical college, with an experience of at least six years in the practice of his profession." The trustees now wish to appoint a deputy superintendent who has not been in practice six years. The civil-service commission has sent in three names from its list of eligibles, from which the trustees have declined to make a selection.

The Vivisection Bill.—Arguments for and against regulating by law and legalizing by supervision experiments on living animals were heard on March 25 before the judiciary committees of both houses on the Cobb-Johnson and Lee-Davis bills. Eminent physicians from all parts of the state came out strongly against any law on the subject, while others, together with the representatives of many humane societies, urged that these bills might become law. These said that all they asked was that vivisection be taken out of the hands of untrained persons and medical students, and be left in the hands of eminent practitioners and scientists who would have a due sense of responsibility. The bill was amended eliminating the provision requiring the use of anesthetics in operations for the development of serum, as this feature had been much objected to by medical men.

New York City.

Banquet to Professor Koch.—A banquet will be given to Prof. Robert Koch, under the auspices of the New York German Medical Society, April 11, at the Waldorf-Astoria Hotel. Admission cards may be obtained from Dr. George H. Mannheimer, 60 East Fifty-eighth Street.

The Middleton-Goldsmith Lecture.—The Middleton-Goldsmith lecture of the New York Pathological Society will be delivered by Dr. Frank B. Mallory of Harvard University, at the New York Academy of Medicine, April 4, on "The Results of the Application of Special Histological Methods to the Study of Tumors."

Personal.—Dr. Adoniram Judson, after 30 years' services as orthopedic surgeon in the out-patient department of the New York Hospital, has resigned, to take effect April 2.——Dr. Edmund M. Devol, Brooklyn, is a beneficiary to the extent of $10,000 under the will of a grateful patient of that city. Dr. Devol expects to spend the summer abroad.

Vacancies in Dispensary.—It is announced that there are two vacancies at the genitourinary clinics of the West Side German Dispensary on Tuesday, Thursday and Saturday evenings, from 7:30 to 8:30. There is opportunity at these clinics for special work in cystoscopy, urethroscopy and catheterization of the ureters. Applicants may communicate with Dr. Abraham L. Wolbarst, 105 East Nineteenth Street.

Almost an Epidemic.—Scarlet fever and measles are almost epidemic in this city at present. These diseases have been so thoroughly kept under control that the board of health is loath to admit that they can assume epidemic proportions. This is the year for a preponderance of measles, but scarlet fever is not due until next year. March 23, 1907, there were reported 375 cases of scarlet fever, while on March 21 of the present year there were 961 cases. It has not been necessary to close any schools and the health department does not expect that this action will be necessary.

The Armstrong Bill.—The Medical Society of the County of New York has sent a letter to its members calling attention to this measure, which provides for the purchase of a site for an institution for epileptic and feeble-minded persons, near Haverstraw, Rockland County, 22 miles north of New York City, which may be reached by the regular boat from the Department of Public Charities. A copy of resolutions showing how necessary this step is for the welfare of New York City and for the profession is enclosed and the united and persistent efforts of the profession in securing the passage of the bill is solicited.

PENNSYLVANIA.

Contagious Diseases.—By direction of the State Board of Health, the Hazel township schools at Jeanesville were closed on account of typhoid fever. All the rooms and books will be fumigated, but the schools will remain closed until the health authorities deem it advisable to reopen them.——Wayne has an epidemic of children's diseases, including scarlet fever, chicken pox and diphtheria. The cases so far reported are of mild type.

Philadelphia.

Hospital Receives Portrait.—A portrait in oil of Dr. John H. Packard, chief surgeon of the Pennsylvania Hospital for many years, was hung in the hall of the hospital, March 27. It was the gift of the former resident physicians of the institution. The committee on presentation was composed of Drs. James Tyson, Thomas H. Andrews, Robert Le Conte and James C. Wilson.

Plans for New Hospital.—Ground will be broken in April for the foundations of the Phipps Hospital, which is to be on the north side of Lombard Street between Sixth and Seventh streets, one of the most crowded centers of population in the city, and in close proximity to Starr Garden Park. One reason why a site in a thickly populated section was chosen was due to the insistence of Mr. Phipps that the hospital should be located near those centers where tuberculosis most flourishes. The cost of the building and land will be about $500,000, and an endowment of the same amount will be necessary to maintain the hospital at the highest degree of efficiency.

Health Report.—The total number of deaths reported for the week ended March 28 was 555, an increase of 24 over the previous week, and a decrease of 10 from the corresponding week of 1907. The principal causes of death were: Typhoid fever, 13; measles, 6; scarlet fever, 10; diphtheria, 7; epidemic cerebrospinal meningitis, 3; consumption, 70; tubercu-

losis of the larynx, 5; tuberculosis meningitis, 9; cancer, 23; diabetes, 7; apoplexy, 11; paralysis, 8; heart disease, 42; acute respiratory diseases, 78; enteritis, 22; appendicitis, 6; Bright's disease, 53; premature birth, 16; congenital debility, 11; old age, 8; sucide, 3; accidents, 11; and marasmus, 5. There were 248 cases of contagious diseases reported, with 32 deaths, as compared with 288 cases and 34 deaths reported in the preceding week.

RHODE ISLAND.

Change in Date of Society Meeting.—The secretary of the Rhode Island Medical Society announces that the date for the annual meeting at Providence has been changed to May 26.

VIRGINIA.

Must Pay License.—In the general assembly March 4, the senate measure designed to exempt physicians from payment of a license fee, was finally defeated, after a stormy debate.

Health Bill Passed.—The Baker health bill, which has already passed the house, passed the senate March 6 by a unanimous vote. The bill which provides that the health department shall institute researches into the best methods to combat contagious and epidemic diseases, is one of the most far-reaching measures enacted by the present legislature.

Personal.—Dr. Charles H. Bunting, University of Virginia, has been appointed to the chair of pathology in the College of Medicine of the University of Wisconsin, Madison.——Dr. Otto C. Wright, Jarrett, was appointed secretary of the Southside Virginia Medical Association, at its joint meeting with the Petersburg Medical Faculty, vice Dr. Emmett F. Reece, Courtland.——At a meeting of the Fourth District Medical Society, March 3, Dr. Samuel A. Hinton, Petersburg, was nominated a member of the executive council.——Drs. W. Preston Hoy and John G. Rennie have been elected directors of the Petersburg Antituberculosis League.——Dr. Powhatan Schenck, Norfolk, has been appointed by the governor quarantine officer for the District of Elizabeth River and its tributaries.

GENERAL.

Decrease of Cholera in Philippine Islands.—Chief Quarantine Officer Heiser reports under date of February 25, that for the week ended February 8 the number of cholera cases reported in the city of Manila continued to fall, there being only 6 cases for this week, as compared with 13 for the preceding week and 41 for the week before. There were 5 deaths from cholera reported during the week. There has also been a reduction in the number of cases occurring in the provinces. The disease continues to occur sporadically in widely separated sections of the archipelago.

Coming Meetings.—The second congress of the American School Hygiene Association will be held at the Hotel Rudolf, Atlantic City, N. J., April 17 and 18, under the presidency of Dr. Henry Walcott, Cambridge, chairman of the Massachusetts State Board of Health.——The thirteenth annual meeting of the Association of Southern Railway Surgeons will be held in Birmingham, Ala., April 28 to 30.——The tenth annual meeting of the American Proctologic Society will be held at the Palmer House, Chicago, June 1 and 2, under the presidency of Dr. A. Bennett Cooke, Nashville, Tenn.

Medical Society of Missouri Valley.—The semi-annual meeting of this association was held in Lincoln, March 19 and 20, under the presidency of Dr. William F. Milroy, Omaha, Neb. An address on Medicine was delivered by Dr. Charles H. Hughes of St. Louis on "Psychiatry and Neuriatry of the Consulting Room, Sick Room and Court, and the Treatment of the Entire Patient in Medical Practice." The evening session, held in the College of Medicine of the State University, under the direction of the Lincoln Pathological Club, consisted of a series of clinical demonstrations, illustrated by stereopticon views and by experiments on dogs, representative of the present-day laboratory methods of teaching. After the evening session a smoker was given in honor of the visitors at the Lindell Hotel.

FOREIGN.

Home and School for Mentally Diseased Children.—A German exchange states that the first German sanatorium and school for psychopathic children is soon to be erected near Berlin.

Journal for Professional Affections.—A new periodical has been founded in Italy by Professor Pisenti to be devoted exclusively to questions in regard to professional affections and industrial accidents from the medical point of view. The title of the new journal is "La medicina degli infortuni del Lavoro e delle malattie professionali."

The Turin Bressa Prize Goes to Rutherford.—Every four years the Academy of Sciences at Turin awards the Bressa prize of 9,600 lire (nearly $2,000) for the most important scientific discovery during the interval. This year the prize was awarded to Prof. Ernest Rutherford of the University of Manchester, England, for his works on radioactivity, 1903-1906. Rutherford was professor of physics at Montreal until two years ago.

The Fleet at Rio de Janeiro.—The *Brazil Medico* comments on the presence of the United States fleet at Rio as demonstrating anew the wonderful success realized in that city in exterminating yellow fever. Conditions have always been peculiarly favorable at Rio for the persistence of yellow fever, and even after the means to exterminate it had been shown the world, the authorities and the populace did not dream of the possibility of applying them to Rio, which for half a century or more had been one of the most deadly endemic foci. Our contemporary attributes the victory to the science and energy of one man, Dr. Oswaldo Cruz, who organized the crusade against yellow fever and in five years carried it to successful completion. The completeness of the victory was shown by the arrival of the American fleet. Fifteen thousand non-immunes, in the heart of the summer season, arrived in the American fleet, anchored in the harbor, landed, gave themselves up to amusements, diversions and irregularities of all kinds and yet few scarcely even remembered that they were in what less than four years ago was an endemic focus of yellow fever, lurking in wait and especially deadly for recent arrivals.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, March 21, 1908.

Honor to Florence Nightingale.

The freedom of the City of London has been conferred on Miss Florence Nightingale. At her request the illuminated resolution presenting her with the freedom of the city, was closed in an oaken instead of, according to the ancient custom, a golden casket, and a check for 100 guineas was devoted for the furtherance of those objects to which she has given her whole life.

Preventing the Spread of Consumption.

The day schools subcommittee of the London County Council education committee suggest that the council should cooperate with the Paddington Health Society in a scheme which the latter has in hand for preventing the spread of consumption. The society asks the council to notify it of Paddington children suffering from consumption, so that they may arrange for the visitation of their homes with a view to showing the patients that by obeying the simple rules of health the spread of infection may be checked. When sanatorium treatment is ordered, the Society will endeavor to provide it. The education committee has decided to supply a medical register to each school, so that when a child is found by the school doctor to be suffering from consumption the name can be entered in this register, which will be submitted to the managers at each meeting. It is hoped that by this method the managers will be able to deal with the class of children referred to.

Typhoid Carriers.

In Great Britain attention has only recently been attracted to the "typhoid carriers" (persons in good health who harbor typhoid bacilli), described by German writers. Dr. R. W. Branthwaite, in a report to the government, has described a remarkable outbreak of typhoid at the Brentry Inebriate Reformatory due to a "typhoid carrier." From September, 1906, to November, 1907, 28 persons were attacked with typhoid. The cases occurred at irregular intervals and always in batches, three, four or five individuals sickening at about the same time, evidently from more or less simultaneous infection. The possibility of a typhoid carrier was entertained and inquiry showed that among the inhabitants of the institution 11 male inmates, 6 male attendants and 6 female inmates had at some time in their lives suffered from typhoid fever. The dairy maid was one of the 6 women who had suffered from the disease (6 years previously). Apparently she had completely recovered. She was removed from the dairy and was found to be harboring typhoid bacilli. The outbreaks started after her admission to kitchen work, in doing which she was able to contaminate the food and they became more virulent when she was given dairy work.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Cathartics.

Cathartics may be subdivided into laxatives, purges, salines, and irritants or drastics. The object for which a cathartic is used determines from which class the drug should be selected. The main difference between laxatives, purgatives, salines and irritants is that the members of the first three classes can rarely cause, even in large doses, anything more than free, profuse catharsis. The drugs under the irritant class can cause, sometimes even in small doses, irritation and even inflammation of the intestines, and an actual enteritis.

The indications for the use of a cathartic are:

1. To unload the bowels.
2. To relieve constipation.
3. As an eliminant.
4. To lower blood pressure.
5. To remove edema or exudates.

1. An evacuant should be given to clean out the intestines when there is an irritant in the bowels, as in acute intestinal indigestion; in intestinal colic, and in acute diarrhea. If the patient is seen in the evening the best purgative is, perhaps, calomel, in a dose of from 0.10 to 0.30 gram (2 to 5 grains), followed in the morning by a saline; or if a quicker action is desired, especially if the patient is seen in the daytime, a proper dose of Epsom salt, citrate of magnesium, a seidlitz powder, or a glass of some cathartic mineral water is the best treatment. One of the most valuable of purgatives is castor oil, especially for children. But perhaps there is no better treatment for a complete cleansing of the bowels than a dose of calomel combined with 1 gram of bicarbonate of soda, with the withdrawal of all food for a number of hours, and with a powder of bismuth (bismuthi subnitras) and salol (phenylis salicylas) for a series of doses, as bismuth 1 gram (15 grains) and salol 0.30 gram (5 grains), every two hours, for ten doses. After a longer or shorter interval, from ten to twenty hours, of abstinence from food, a bland, corrected diet should be instituted.

Rarely in children with intestinal indigestion small doses of calomel, as from 1/20 to 1/10 of a grain every hour until there is green purging, is good treatment. The calomel is supposed to have an antiseptic action in the bowels. If a minute portion of it is changed into corrosive sublimate as it passes through the stomach, some antiseptic action occurs. Such chemical change is, however, undesirable on account of causing irritation of the stomach, and nausea and vomiting. These small doses of calomel also cause intestinal irritation and often a troublesome diarrhea, and besides, the cleaning out of the bowels by any such treatment is slow. There is also danger of producing salivation and a good deal of weakness. In other words, much as such treatment is lauded by many clinicians, it is often objectionable, and, generally, if calomel is to be administered it should be given, in the proper dose for the age and condition, to act as quickly and completely as possible.

In obstinate constipation saline cathartics or various combinations of the more active cathartic vegetable drugs are needed. Before giving strong drastic drugs, however, especially such as produce irritation or much peristalsis, a decision must be made that there is no obstruction; in other words, that the condition is not an obstipation. If there is obstruction of any kind, active cathartics will make the condition worse. Reliance, in these conditions, should be on large colon injections of warm water or oil, and if unsuccessful, surgical procedure.

It is well to begin the treatment of all acute diseases, especially infections, with a cleaning out of the bowels by means of some simple purge.

The best purges are as follows: Calomel, castor oil, a saline cathartic.

The saline cathartics are: Magnesium citrate, magnesium sulphate, potassium and sodium tartrate, seidlitz powder, sodium phosphate, sodium sulphate.

Of course, a large dose of any laxative will act as a purge.

2. In chronic constipation laxatives only should be used; never the strong cathartics or purgatives, and the dose should be just sufficient, with a properly regulated diet, cold morning sponging of the body, abdominal massage, and physical exercises, such as walking or outdoor games or athletic work, and perhaps abdominal muscular exercises, as, altogether, to cause one good movement of the bowels a day.

If there are hemorrhoids, such drugs as cause pelvic congestion should be avoided. The same is true in pregnancy and in pelvic inflammations. Aloes and rhubarb, unless in small doses and combined with some modifying drug, are perhaps well avoided when these conditions are present.

It is sometimes best to give a small dose of a laxative three times a day, after meals instead of once a day, viz., after supper or at bedtime, the object being ordinarily to have a movement of the bowels directly after breakfast, which is the most convenient time and the best time for most people. This method of administering a small dose of a laxative three times a day is most satisfactory with a preparation of rhamnus purshiana (cascara sagrada).

If a patient has hemorrhoids or rectal pain, it is often a good plan to cause a movement of the bowels just before going to bed, as this precludes the probability of a fecal mass in the rectum causing congestion all night.

If there is plethora, liver or kidney insufficiency, or obesity, a saline laxative in the morning before breakfast is the best treatment.

The best drugs to use as laxatives, and perhaps in the order of preference, are as follows: Cascara sagrada, aloin, podophyllum, rhubarb, Carlsbad salt, other natural spring salts, Rochelle salt, Epsom salt, glauber salt, magnesia, sulphur.

3. In all toxemias, uremia, diabetic coma, blood poisonings of all kinds, quickly acting cathartics, as croton oil, elaterium, compound jalap powder, Epsom salt (and the activity is in the order named) are indicated. If a purgative is to be daily repeated, the milder salines should be used.

4. When there is cerebral congestion or pressure (in apoplexy, or when there is danger of it), the purgatives that cause large, watery stools, thus relieving arterial pressure, are indicated. The blood pressure in the head is always less than that of the rest of the system, hence the lower the systemic pressure, the lower that in the head. Saline laxatives are generally the best for this purpose, and should be given concentrated, or, if the action must be as soon as possible, a drop of croton oil in a little granulated sugar on the tongue is the best treatment.

In advanced arteriosclerosis a daily laxative, combined with a proper regulated diet and such other medication as is indicated, is good treatment.

5. A purge that causes watery stools is indicated when we wish to remove edemas and exudates. As many such cathartics, notably elaterium, are very depressing to the heart, they should be used with care. A concentrated solution, in proper dose, of one of the saline cathartics, is generally satisfactory, and to reap the most advantage from the action of such a solution the liquids taken should be restricted.

Drastic cathartics or irritants are: Colocynth, croton oil, elaterium, gamboge, jalap, scammony.

Myalgia and Joint Pains.

Although each physician has his own method of combating such pains, it will not be amiss to refer to a few good things said by Dr. S. Solis-Cohen, in *Merck's Archives*, May, 1901. He believes that for the immediate relief of severe lumbago or wry-neck nothing equals the intramuscular injection of atropin and morphin and he advises 1/60 of a grain (0.001 gm.) of the former (a large dose) and 1/6 of a grain (0.01 gm.) of the latter. He follows this hypodermatic treatment with the internal administration of some form of colchicum, as:

℞. c.c.
Vini colchici radicis ..... 25 | or fʒi
Sig.: Ten drops, in water, every four hours.
Or:
℞. gm. or c.c.
Colchicinæ salicylatis ..... | 012 or gr. 1/6
Aquæ gaultheriæ .....100 | fʒiii
M. et Sig.: A teaspoonful, in water, every four hours.

"In painful affections of the muscles and joints—rheumatic, rheumatoid, gouty, neuralgic and of unknown origin"—he has seen a great deal of relief caused by the external use of oil of wintergreen or oil of birch, as:

℞. c.c.
Olei gaultheriæ .....100 | or fʒiv
Sig.: Rub frequently over the painful region.
Or:
℞. c.c.
Olei betulæ .....100 | or fʒiv
Sig.: Rub frequently over the painful region.
Or, these are perhaps well diluted, as:
℞. c.c.
Olei gaultheriæ | or
Olei olivæ .....āā 50 | āā, fʒii
M. et Sig: Use externally, as directed.
Or:
℞. c.c.
Methylis salicylatis | or
Olei olivæ .....āā 50 | āā, fʒii
Sig.: Use externally, as directed.

Of course, in acute articular rheumatism friction or rubbing is contraindicated, and a cloth may be saturated with the above solutions and laid over the part and then covered with flannel or cotton.

Painful nerves are sometimes soothed with the following combination:

℞. gm.
Mentholis ..... 10 |
Chloralis ..... 10 | or āā, 3iiss
Camphoræ ..... 20 | 3v
M. et Sig.: Paint over the painful nerve.

He also speaks of the value of guaiacol painted over painful regions, and says that it is even more valuable if combined with wintergreen oil, and perhaps best in the form of an ointment. He also sometimes adds camphor, peppermint, and even mustard, depending on the amount of irritation he wishes to set up. He suggests the following combinations, subject to modification in each individual case, depending on the consistency and the amount of counter-irritation desired:

℞. gm. or c.c.
Olei gaultheriæ ..... 1 |
Guaiacolis ..... 1 | āā, m. xv
Mentholis ..... | 50 or gr. x
Adipis lanæ hydrosi..... ..... 8 |
Cerati ..... 8 | āā, 3ii
M. (Dispense in a tin tube).
Sig.: A small quantity (about the size of a pea) to be well rubbed in over the seat of the pain night and morning.

He finds this prescription of special value in neuralgic headache and intercostal neuralgia.

The following he finds useful in painful joints, especially in chronic gout:

℞. gm. or c.c.
Olei gaultheriæ ..... 1 | 50
Guaiacolis ..... 1 | 50 āā, m. xx
Camphoræ 1
Mentholis ..... 1 | āā, gr. xv
Olei caryophylli ..... | 50 or m. v
Glycerini
Cerati
Adipis lanæ hydrosi.....āā. 5 | āā, 3i
M. et Sig.: A small quantity to be well rubbed in over the seat of pain.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.
CLEVELAND, OHIO.

(*Continued from page 1055.*)

II. WHAT IS WRONG WITH THERAPEUTICS?

Doctors are supposed to be especially prone to disagree, but I doubt whether anyone can be found to take exception to the statement that therapy has not, during the last generation or two, kept pace with the other departments of medicine. A generation ago therapeutics was an art, promising to develop into a science. At present it can not be classed as an art, nor as a science; it can only be classed as a confusion.

Within the gates, we hear much clamor from the man who would substitute the laboratory for the bedside, and from the man who would substitute the bedside for the laboratory. One shouts valiantly for every new product of the advertiser's skill; another asserts boldly that the treatment of disease is a figment of the imagination. One praises baths as the modern elixir of life, another electricity, another radium. This one rests his faith in nurses, and this one in office furniture—and thus it goes. Without the gates, we see healers of various names, even more noisy, each shouting for his little cure-all, discordant in every thing but their attack on what they discern as the weakest part of medicine.

Is the condition really so bad as it appears? Is the confusion beyond remedy? If I believed this I would not waste my time in writing these papers. The only excuse for handling dirty linen is to clean it. I am so optimistic as to believe that the present turbidity of therapeutics is the turbidity of fermentation, rather than that of putrefaction. I believe that in this turbid medium crystals have been forming as nuclei for further elaboration—in other words, that considerable progress has been made, little as this appears to be the case. The only question in my mind is whether or not the fermentation is sufficiently advanced, whether it is time to apply the clarifying agent. I believe, however, that the attempt is bound to do good, at least by showing us where we stand and in what channels further efforts must be directed.

Of one thing we may be sure—no *one* of the discordant elements is the *whole* of therapeutics. What is needed to create order out of the confusion is not so much the appearance of some great genius. It is nothing more nor less than a proper attitude of mind—a fair, tolerant and broad spirit of earnest inquiry—sufficient interest in the subject to make us all inquire, think, and above all, *act* on our thoughts; and finally —*cooperation*.

The problems underlying therapeutics are so broad and ramified that no adequate solution can be hoped for unless *all* co-

operate—every self-respecting member of the medical profession, big and little—the so-called leader and the private; the country doctor and the college professor; the press and the societies; chemists, pharmacists and manufacturers—all can and must contribute their quota to the solution of the problems to make the movement for better therapeutics successful. And the first step in this cooperation is the cultivation of the spirit which I have outlined. That is the clarifying agent which I would propose. And it seems to me that no one who has the true interests of his profession, and incidentally of himself, at heart, can afford to refuse his cooperation in this movement.

(To be continued.)

Air Disinfection—The Question of Pure Air Versus Purified Air.

The disinfection of rooms in which an infectious disease has occurred is a very important matter. The spread of the disease and the lives of other people are involved and the greatest care should be exercised to see that the agents used for this purpose are efficient. To lull the patient and the family into a sense of security by the recommendation of an inefficient agent for this purpose, either during the illness or after its termination, is very reprehensible. It is needless to repeat the well-known fact that efficient disinfection can not be carried out in a room occupied by the patient. Agents which kill germs in a certain degree of concentration fail to do so when they are diluted below that concentration, and while the organisms may be temporarily inhibited from growth they will again become active and virulent under favorable circumstances. This thought is suggested by the report, given below, of an investigation of the much advertised proprietary Vapo-Cresolene. In this particular instance, considering the injurious effect on the kidneys of cresol and other members of the phenol group, patients, especially children, suffering from infectious diseases, should not be compelled to breathe the vapor of such a drug unless the advantage to be derived is very great.

Applying the principle generally, it is certainly more rational to get rid of infected air by turning it out of doors than to attempt to kill the germs in it while the patient is still breathing it. It is difficult to conceive any reason for using chemical agents to purify the atmosphere of a room when an unlimited quantity of pure air is to be had at no greater expenditure of effort than the mere opening of a window.

Report on Vapo-Cresolene.

HUMBOLDT, TENN., Feb. 10, 1908.

To the Editor:—What can you tell me about Vapo-Cresolene? G. W. PENN.

ANSWER:—Vapo-Cresolene has been examined in the American Medical Association's laboratory and the chemists' report follows:

According to the statements on the trade package, Vapo-Cresolene "is a product of coal-tar possessing far greater power than carbolic acid in destroying germs of disease." It is recommended as a remedy for a number of diseases, including croup, catarrh and diphtheria. According to the manufacturers, it should be used only in "the Cresolene vaporizer," which makes it "unequaled for the disinfection of sick rooms" and the "safest and simplest method of destroying infection and purifying the air." From the examination[1] we conclude that Vapo-Cresolene is essentially cresol and corresponds in every respect to cresol U. S. P. (Physician's Manual, page 36).

1. ANALYSIS OF VAPO-CRESOLENE: One part of Vapo-Cresolene was found to be soluble in about 60 parts of water. Mixed with an equal volume of glycerin a clear solution is obtained; from this, by addition of an equal volume of water, almost the entire original volume of Vapo-Cresolene separates out. Submitted to distillation, a few drops distil over at 90 C., then the boiling point of the liquid rapidly rises to 90 C., and almost the entire liquid distils over between 90 to 100 C. Its specific gravity at 25 C. is 1.0407. From this it appears that Vapo-Cresolene corresponds in every way to the description of cresol as found in the United States Pharmacopeia.

This report indicates that Vapo-Cresolene is a member of that class of proprietaries in which an ordinary product is endowed, by the manufacturer, with extraordinary virtues. The type is so common and has been referred to so frequently that but for the dangers attendant on the inhalation of any of the phenols, this particular product need not have been mentioned.

Examination of Proprietaries in Germany.

F. Zernik in an address to the German Pharmaceutical Association in Berlin, Jan. 9, 1908, reviews the principal proprietaries introduced during 1907, and comments on the results of their examination. Recently, the great commercial houses have facilitated the investigation of their products by furnishing information regarding the source, composition and properties of their preparations. In the main, this information has proved reliable, but not always. Zernik's examinations show the imperative necessity of impartial investigations of the products of even the most reputable firms. Such firms will be glad to acknowledge and correct errors, but Zernik notes another spirit as prevalent to some extent in the commercial world.

That reports of irregularities in their products should be unpleasant to the manufacturers is quite natural, especially as these reports are not confined to the pharmaceutical press; various medical journals, both domestic and foreign, are beginning to open their columns to them.

Then appear corrections: These corrections, however, it is sad to say, are often based on the motto *"si fecisti, nega"* (if you have done anything deny it), and in them facts that have been established by absolute evidence are opposed by an expenditure of dialectics that is worthy of a better cause.

Zernik regards the exposure of unworthy preparations as decidedly to the advantage of the pharmaceutical and chemical industry of Germany. He says: "In this relation, the reaction which has set in in the United States, against the prevalence of doubtful preparations, may serve as a model." He describes the work of the Council on Pharmacy and Chemistry, and concludes: "In this cooperation of the physician and the pharmaceutical chemist as it has been established in the United States, the way is pointed out in general by which relief from the present inconveniences may also be obtained by us."

Zernik reviews the principal preparations which have appeared during the year 1907, but we have space only for a notice of those which are on the American market, or are otherwise of special interest:

PARALYSOL.

Paralysol is a solid cresol soap preparation that has been introduced into the market in the form of tablets; the tablets weighing one gram are designed for the extemporaneous preparation of a cresol soap solution, analogous to metacalin which was introduced in 1905, but has since been withdrawn from the market.

FORMIDIN.

Formidin was found by Zernik to be deficient in its iodin contents. He emphasizes the fact that it is not a chemically individual substance. His report on formidin was given in THE JOURNAL, July 13, 1907, page 157.

IODOFAN.

In the report of last year on iodofan given in THE JOURNAL, June 22, 1907, page 2129, Zernik stated that iodofan contained only about 4 per cent. of iodin instead of from 42 to 47 per cent. which it should contain according to the formulas given by the proprietors. His conclusions in this respect were questioned, but subsequent examinations fully confirmed his previous results. An account of these results can be found in THE JOURNAL, March 14, 1908.

ICHTHYANAT.

Ichthyanat is the name of a new substitute for ichthyol, which is obtained by the bituminous shale of the Achensee (in North Tyrol). In its chemical and pharmacologic properties it appears to be similar to ichthyol.

SYNTHETIC SUPRARENIN.

There has been introduced a synthetic which agress in composition, properties and physiologic action with the alkaloid from the suprarenal glands. It is said to surpass the latter in the strength and uniformity of its action.

DIETHYL BARBITURIC ACID.

Under this name a preparation completely identical with veronal, but obtained by a different process, has been introduced. According to the patented process, disodiumcyanamid is warmed with urea and diethylmalonic ester, for three hours at a temperature ranging from 105 to 110 C. (221 to 230 F.). The mass solidifies and the alcohol is distilled off. The residue is dissolved in water and the principal amount of the diethylbarbituric acid produced is separated by hydrochloric acid.

BROMURAL.

A description of bromural appeared in THE JOURNAL, March 14, 1908, page 879. Zernik states that the bromural of commerce is not yet entirely pure. It melts at about 147 C. (296.6 F.), while the true monobromisovalerylurea melts at 154 C. (309.2 F.).

NOVASPIRIN.

Novaspirin is a preparation consisting of the disalicylic acid ester of anhydromethylencitric acid. Zernik found that the preparation corresponded in composition to the claims made for it (THE JOURNAL, July 13, 1907, page 157).

VINOPIRIN.

The investigations of Zernik on this substance were described in THE JOURNAL, July 13, 1907, page 157.

BOROVERTIN.

Borovertin is an urinary antiseptic, consisting of hexamethylentetramin trimetaborate. Zernik gives no new facts regarding this preparation except that according to the patent it may be produced either by rubbing together the components in molecular proportion and drying at 60 C., or by gradual evaporation of the water or solution of the component. Borovertin tablets contain 10 per cent. of maranta starch.

ATOXYL.

Zernik gives the result of investigations into the composition of this preparation and notes especially the varying quantity of water as shown by the differences between analyses made in Germany and the results obtained by the American Medical Association. He concludes: "It is a striking fact that in spite of the amount of sodium which was undoubtedly known to the manufacturer the incorrect designation metaarsenicanilid was for years attached to this, in no sense, indifferent remedy. The determination of the constitution of this remedy now confirmed from three different sources has given a certain clearness to the pharmacologic relations of atoxyl. It is well known that after the use of this preparation, poisoning, especially severe disturbance of vision, even to blindness, has occurred, so that the name 'atoxyl' is to be understood only *cum grano salis*. While it was formerly a matter of discussion whether the arsenical or the anilin component was to blame for these toxic effects, it is now scarcely to be doubted in consideration of the constitution of atoxyl that we have here to do with the action of arsenic, as the anilin as such is detoxicated by the entrance of the arsenical radical into the nucleus, as is the case, e. g., in sulphanilic acid. Experimentally also, Blumenthal and Jacoby have lately determined that atoxyl poisoning is really an arsenical poisoning. The demand that in the case of so active a preparation the content of water shall be exactly fixed and shall not be subject to such variations as have been exhibited, appears to be thoroughly justified. On the other hand, in consequence of the easy decomposition of the commercial preparation, it is the duty of the apothecary to protect atoxyl from the action of the air in tightly closed vessels."

A Correction.

Two weeks ago, in referring to Dr. LeRoy Crummer's appointment on the staff of clinical consultants of the Council on Pharmacy and Chemistry, we stated that he was connected with the Creighton Medical College. He is professor of therapeutics in the College of Medicine of the University of Nebraska.

Eno's Fruit Salt.

PHILADELPHIA, March 21, 1908.

To the Editor:—Can you furnish the formula of Eno's Fruit Salt? A patient under my observation took this preparation on the advice of a friend and has since developed signs of cardiac dilatation, weakness and arhythmia. A. A.

ANSWER:—According to an analysis in the *Pharmaceutische Centralhalle*, Nov. 1, 1906, Eno's Fruit Salt consists of about 50 per cent. sodium bicarbonate, 15 per cent. sodium bitartrate and 35 per cent. free tartaric acid. Therefore, its composition is very similar to that of seidlitz powder.

Correspondence

The Scarlet Fever Epidemic of Nineteen Hundred and Seven.

A proof of the article with the above title by Dr. Hemenway, which appears on page 1115 of this issue was submitted to Dr. James A. Egan, secretary of the Illinois State Board of Health, who writes as follows:

SPRINGFIELD, ILL., March 18, 1908.

To the Editor:—Much that is interesting to the medical profession might be said by me in connection with the charges brought against the Illinois State Board of Health by Dr. Hemenway in his paper. The permission to reply to Dr. Hemenway's paper limits me to a brief statement of the facts and I must, of necessity, exclude comment and criticism.

I take occasion, however, to express my astonishment that Dr. Hemenway's charges, reflecting on the efficiency of the Illinois State Board of Health and the Chicago health department, should have been made before the North Side branch of the Chicago Medical Society, which is little known beyond the confines of the north shore of the city, where the Chicago Medical Society itself would doubtless have welcomed Dr. Hemenway's paper and would have given it the widest publicity. I am further astonished that Dr. Hemenway should have made his charges in a meeting without serving some notice on the organizations attacked, so that their representatives might have been present to discuss the paper and, incidentally, to have corrected several errors and misconceptions. More surprising it is that Dr. Hemenway should have waited until a year after the occurrences with which he dwells, and until they have well nigh faded from memory; until a time when the commissioner of health assailed has been out of office for nearly a year; until an inspector for the State Board of Health, to whom improper motives are attributed by Dr. Hemenway, has been out of office for several months. It is, indeed, difficult to understand why Dr. Hemenway should have remained silent for a year before laying the facts in his possession before the readers of THE JOURNAL and, incidentally, before the people of Illinois.

Scarlet fever formed the subject of a well-advertised "symposium" at a meeting of the Chicago Medical Society, Feb. 27, 1907, and at that time special attention was devoted to the etiology of the outbreak of that disease which had prevailed during the previous sixty days. Dr. Hemenway was present and gave the opinion that the milk supply was responsible for the spread of the disease. If he made any strictures, however, on the management of the epidemic, by state or city health organizations, I have yet to hear of it. Still, that was the time and the place for such charges if they were to be of the slightest benefit to these organizations or to the public.

Within a few weeks after this "symposium" Dr. George W. Webster, president of the Illinois State Board of Health, read a paper on scarlet fever before the Evanston Branch of the Chicago Medical Society, which held its meeting a few blocks from Dr. Hemenway's office. Here was an excellent opportunity for Dr. Hemenway or any other person to reflect on the manner in which the epidemic of January and February, 1907, was handled by the Illinois State Board of Health, if Dr. Hemenway or any other person had cared to do so But there

were no criticisms so far as I know, and Dr. Hemenway did not attend this meeting.

Scarlet fever prevailed generally throughout northern Illinois in January, 1907. I say scarlet fever, and Dr. Hemenway will agree that it was scarlet fever, although, on Jan. 16, 1907, he asserted that the cases were not typical. The Illinois State Board of Health, which is charged with the general supervision of the interests of the lives and health of the people, and which, as a rule, acts in an advisory capacity only, kept in close touch with the infected municipalities, which under the law, are empowered to do all acts and to make all regulations which may be necessary or expedient for the promotion of health and the suppression of disease. All municipalities in Illinois are vested with authority to pass health ordinances, which, according to the Supreme Court, have the same force and effect of laws passed by the legislature.

Jan. 16, 1907, the State Board of Health, which Dr. Hemenway has charged with inefficiency and passive opposition, was advised by Dr. William R. Parkes, health commissioner of Evanston, that there were forty cases of scarlet fever in that city among the customers of the ——— Milk Company, I immediately called Dr. Parkes on the phone and inquired as to the probable source of infection, and was advised that it lay in "X." I then wired Dr. J. C. Westervelt of Shelbyville, chief medical inspector of the State Board of Health, to go to "X" and to make an investigation. The following day a communication was received from Dr. Hemenway, in which he stated that the disease prevailed among users of the ——— Milk Company, and that this milk came from Lake G.

Not hearing from Dr. Westervelt, a severe storm having crippled the telegraph service, I wired Dr. E. F. Baker of Jacksonville, an inspector for the board, directing him also to go to "X" to investigate the milk supply of the ——— Company.

Space prohibits a detailed account of the investigations made by Drs. Westervelt and Baker in a foreign state, immediately after the report of scarlet fever reached the State Board of Health. Jan. 19, 1907, however, Dr. Westervelt reported that he had made a careful investigation at "X," which, by the way, is in Wisconsin, and that he found that there had been no case of scarlet fever among any of the employés of the ——— Milk Company since July, 1906, and that, in his opinion, there was no infection in "X" milk. Dr. Westervelt further stated that he had heard no complaint against ——— milk except in Evanston.

Incidentally, it may be noted that, as stated by Dr. Hemenway, in his letter of January 16, ——— milk from the same source as the Evanston supply was used in Oak Park and in the north side of Chicago, where scarlet fever was practically epidemic, yet I have never heard that infection was laid to the ———milk either in Oak Park or in Chicago. Dr. H. G. Vaughn of Oak Park stated at the "symposium" of the Chicago Medical Society, above referred to, that a most careful investigation had failed to implicate the milk supply there.

The *Bulletin* of the Chicago Health Department for the week ended Jan. 26, 1907, states that the department's dairy inspector, who visited "X" January 9, had found several cases of scarlet fever in the town, but none among the dairies supplying milk to the company and none among the employés of the plant; and that, on a subsequent visit, January 25, there was no case among the employés of the ——— plant, and but one case had appeared among the dairies supplying milk to it.

As stated, scarlet fever prevailed at that time throughout northern Illinois, and in Chicago it was prevalent on the north side. Dr. Whalen, health commissioner of Chicago, advised this board that he did not attribute the epidemic to infected milk, and that he had heard no complaint against the ——— milk except from Evanston. The later successful suppression of scarlet fever in Chicago was brought about by a vigorous policy of isolation, quarantine and disinfection, and not through changes or restrictions in the milk supply.

On January 24 an anonymous letter, alleging that scarlet fever prevailed among the employés of the ——— Milk Company at "X," was forwarded to the State Board of Health by the health officer at Evanston. As the State Board of Health is glad to avail itself of any information, anonymous or otherwise, I called up Dr. Baker and directed him to go to "X" and to *stay there* until he had made a complete investigation. Dr. Baker reached "X" on January 25, and there met an inspector from the Chicago department of health, and ascertained that an inspector from the Evanston board of health had been there the day previous. The investigation was searching in character, but no case of scarlet fever was found among the employés or families of the employés of the ——— company.

While at "X" Dr. Baker learned of the existence of scarlet fever at "Y," Wis., which apparently had not come within the ken of the Evanston officials or of Dr. Hemenway. At this point Dr. Baker found that the ——— company was receiving milk from fifteen families in which scarlet fever prevailed. This information was immediately communicated to the Wisconsin State Board of Health by Dr. Baker, and the shipment of milk from that point was stopped. So much for the work of the Illinois State Board of Health in the scarlet fever epidemic of 1907.

There is much more that I should like to say in answer to Dr. Hemenway, but I have already taken up too much space. Still, I feel it necessary to correct Dr. Hemenway on one or two points. In referring to the action by the municipalities within a fifty-mile radius of Lake Michigan in joining together for public health work, Dr. Hemenway says: "This organization is a monument to the inefficiency of the State Board of Health." Dr. Hemenway, who is thoroughly familiar with the powers and duties imposed on these municipalities, should appreciate that this commendable action, which might, with profit to the various municipalities, be emulated in other parts of the state, constitutes no reflection on the State Board of Health which, as heretofore, will render aid to all cities, villages and townships in the state whenever necessity requires.

Dr. Hemenway is in error when he further states that this organization is doing work which is conducted in other states by the State Board of Health. In no state does the State Board of Health, as a rule, usurp the functions and authority of municipalities and assume charge of local health matters. In scarcely any state is there a more thorough system of sanitary inspection than is maintained in Illinois. In but few other states—I doubt if Dr. Hemenway could name more than one offhand—are three medical inspectors kept continually busy in making investigations in the various counties, of which there are 102 in Illinois.

It may be that the outbreak of scarlet fever in Evanston in 1907 was caused by infected milk. It may be that "the idea that every case of scarlet fever can be traced to a previous case"—an idea which, when acted on, resulted in the speedy suppression of the outbreak in Chicago and other municipalities in northern Illinois—is erroneous and indefensible. It may be that the investigations conducted by the Illinois State Board of Health were not as searching and as thorough as would have been the case had other physicians constituted the personnel of the members or inspectors of the State Board of Health; but Dr. Hemenway should bear in mind that, as aptly stated by von Jürgensen in Nothnagel's "Encyclopedia of Practical Medicine," "in none of the acute exanthemata does our lack of knowledge of the cause of the disease prove so disturbing a factor as in scarlatina."

JAMES A. EGAN,
Secretary, Illinois State Board of Health.

[The above was submitted to Dr. Hemenway, who comments:]

EVANSTON, ILL., March 20, 1908.

To the Editor:—Dr. Egan's note requires slight answer. If I had wished to make charges against any official, municipal or state, they would have been preferred before the proper authority, and not in a newspaper, professional or secular.

Every public official may have his official acts discussed critically. This does not denote unfriendliness. To prefer charges is very different. The public is entitled to know the facts. Up to the present the State Board of Health has not published them, though it is now more than a year since the epidemic. If, as Dr. Egan says, the only complaint came

from Evanston, it shows that only because of the repeated spurs from Evanston, Dr. Baker was sent to "X" January 25, and not till then was anything really done, and, therefore, to Evanston belongs the credit. If, as stated in Egan's letter of March 19, the board was unable to find any evidence to substantiate the claim that the disease came from the infected milk, why was the shipment of milk stopped, as Dr. Egan says it was?

Dr. Webster did not read such a paper, as stated by Dr. Egan, before the Evanston Branch. Under the auspices of the branch he did give a *public lecture* on the general subject of public sanitation. I was present at that meeting, and after the lecture I was one of those who accompanied Dr. Webster to the train.

After the symposium of the Chicago Medical Society, realizing that I had but touched on the subject, Professor Hektoen and others urged me to write a paper. This I promised to do, but I delayed, hoping to receive the report of the State Board of Health, and that of the representative of the milk company. Because the territory of the North Shore Branch suffered with Evanston in the epidemic, I was asked specially to discuss this subject in a symposium of that branch. In my paper I simply stated facts as I found them. The paper speaks for itself. It will be noticed that I did not name either the milk company, or the towns from which the milk came. If Dr. Egan knows the facts, he knows that milk from "Y" was bottled at and shipped from "X"; and he must also know that my article shows that I knew of the disease at "Y" on milk farms.

I think that reference to the tables and diagrams will show that the subsidence in the epidemic was more due to the stopping of the milk than to a change in the quarantine.

When an attorney was preparing to enter suit against the milk company he wrote to Dr. Egan for information; I regret that the doctor does not explain his reply, which immediately stopped further action by the attorney. This reply is directly contradicted by the report of Dr. Baker, who found 40 cases at "X" and 15 at "Y."

Finally, through the inability of Dr. Westervelt to find the disease afterward reported by Dr. Baker, as stated by Dr. Egan, the board lost one week's time.

"X" is near Lake G., and explains the statement made to me from the milk company, that the milk came from Lake G.

HENRY B. HEMENWAY.

Mr. Bok's Article—A Criticism.

BENNETT, IOWA, March 23, 1908.

To the Editor:—After reading the article by Edward Bok, editor of the *Ladies' Home Journal*, I am compelled to say that his accusations are the most audacious and malicious of all the attacks made on our noble profession and the practitioners thereof. No opportunity has been let slip by him where actual proof could not be brought to bear on the falsity of his statements. He even goes so far as to say that he himself knows and the average physician does not know the ingredients of his, the average physician's, prescription. It must be that Mr. Bok's position as editor of a magazine whose monthly publications run into the millions of copies has turned his head, and his good judgment has been cast aside for this once while he drags the whole medical profession through the mire caused by a few unscrupulous physicians aided by the manufacturers of certain cure-alls.

The medical profession is an institution devoted to the spiritual, mental and physical condition of the people; therefore, all but holy. The true physician has no relation to the nostrum, and this statement applies to at least 99 per cent. of physicians practicing to-day. He never had any relation to the nostrum except that of an enemy armed and in mortal combat with the whole fraternity of nostrum makers and fakers. The most eminent physicians in our profession do not prescribe nostrums of which they do not know the ingredients, and Mr. Bok does not, nor can not, prove his statement to that effect; he is liberal enough, however, to admit that the prescribing of nostrums is on the decrease, but he omits the fact that the decrease is largely being brought about by the very fraternity whom he accuses of using the nostrum in their professional work.

It is the business of every physician to prescribe any medicine, proprietary or not, if he knows the formula and considers the prescription suitable to the case. Right here I will say that there is no medicine, secret formula included, that is not open to the physician's knowledge if he so desires to know its ingredients and will make known his want either to the manufacturer or a qualified analytical chemist. Certainly formulas are written by men who never attended medical schools, and I note that editors and others no better qualified sometimes enter into severe criticisms of the profession which does know and which chooses to use, in prescriptions, remedies that are not known to the laity in general. No professional man is more aware and careful of the personal rights of the laity than the physician himself, in fact this right of the layman is almost too carefully fostered by the physicians of this country. In many instances it would be better for the individual and the public in general if the physician would disregard the rights of his patient and enforce rigid measures contrary to them.

To whom shall we go for our pharmaceuticals, toxins, vaccines, chemicals and other laboratory products, if not to Wampole, Parke Davis, Fairchild, Mulford and other well-known manufacturers of standard supplies? Better deprive the people of the steam railroad, the steamboat, the electric car, the air brake, the telephone, the telegraph, the printing press and all other of the numerous inventions now in use by the public, and intended to save life and labor to that public, thus removing the very agencies that make it possible for the editor of the *Ladies' Home Journal* to reach its enormous publication and distribute the same to the reading public, through whom he is trying to punish the doctors for an imaginary offense that he has no further proof of than the fact that some pharmacist has said that certain physicians have prescribed certain preparations that they, the pharmacist and the editor of the *Ladies' Home Journal*, do not know the ingredients of and, knowing the ingredient, do not know its therapeutic uses nor the condition or state for which this particular unknown remedy, to them, was prescribed.

It is the duty of the public as well as that of the physician to insist on each and every manufacturer of medicines, as well as manufacturers of foods and food-stuffs, to make their goods true to formula and to name. Then adulterators and substitutors will be held responsible and not the physician who prescribes what he is told and believes to be standard pharmaceuticals that are not true to label and as a consequence injures his patient. The manufacturers of pharmaceuticals have culminated directly from the old-time apothecary and hold their important position with the medical profession on their merits only, the physician could dispense with them so far as their product is concerned, but they can not exist without the physician. Therefore it is to the interest of every manufacturer to serve the consumer well; in order to do this the reliable manufacturer is constantly on the lookout for the wishes of his customer in the medical profession, and in order to meet his demands he has engaged the ablest of our chemists, mechanics, veterinarians and doctors to conduct his tests for purity and action and to carry through elaborate experiments for the benefit of science and mankind, as well as the designing of special apparatus for the manufacture and production of the newer and most approved remedies. With the manufacturer as a cooperative worker and the improved products of his well-equipped laboratories to combat disease the science of medicine, through the efforts of the physicians, has made and is now making rapid strides toward perfection, that goal which is the aim of all medical men.

From the nature of Mr. Bok's writing in THE JOURNAL of the American Medical Association for March 21, especially when he says perhaps he does and perhaps he does not know what a nostrum is, this being a fair unprovoked admission, it would occur to any reader that Mr. Bok was somewhat at sea to know just what he was writing about. I would like to know what proof the editor of the *Ladies' Home Journal* has that the constituents of Thermol, Bromidia, Nutritive Elixir,

Phenalgin, Radam's Microbe Killer, Phenol Sodique, Beefine, Bromo-Quinine and tasteless Cod Liver Oil were not well known to the prescribers of these remedies as well as their therapeutic uses and probable benefit to those they were prescribed for, or on the other hand if they were really prescribed by the persons whose signatures appeared thereon, or by some promoter of these remedies who takes liberties with the well-known doctor's signature to cover up his illicit practices and promote the sale of the remedies prescribed.

The public, nor no part of it, has found the genuine physician, who constitutes more than 99 per cent. of the practicing physicians of this country, prescribing remedies and medical agents that they have no knowledge of. It would be impossible for any physician to prescribe a remedy and keep himself entirely ignorant of its qualities, not saying, however, that the editor of the *Ladies' Home Journal* has not given out damaging information to millions of the laity stating the unenviable position the average physician has placed himself in when he has and will continue to use drugs that are not well known to the editor of the *Ladies' Home Journal* and his druggist acquaintances.

Having in my possession several copies of the London *Lancet*, a leading medical journal printed more than fifty years ago, I find on comparison with the leading text-books and medical journals of this time and period a decided improvement over the practices then in vogue. Of course you will understand I have not consulted the files of any "cut rate" corner drug store proprietor nor do I so intend, claiming as I do the only way to approach, even approximately, to a solution of this question is by comparison of the leading text-books and medical journals of the present time through whose columns and pages the physician young and old is kept abreast of the science and taught the best and most approved practices. My comparison of these writings of over half a century ago with the advanced methods of treatment as applied to-day makes my heart glad and I am convinced that the scientific prescribing and the compounding of remedies is at its zenith as compared with the crude concoctions of the date of my *Lancets* some fifty years gone by.

It is little wonder that the public is nonplussed as to a course of action when the leading publications of our day approach them with the gravest kind of accusations against the noblest and best of our professional men, the average physician. Happily, however, the inaccuracy of these accusations is real to any layman who may stop to think and the horror of the unsubstantiated charge is being largely replaced by a new and everlasting confidence in the members of the profession who have so patiently and painstakingly served the people, often times without thanks or compensation. This is but a natural culmination and the physician of the future will command more confidence, respect and compensation for he is succeeding in branches of his art where heretofore death claimed all.

A. J. CHARLTON, M.D.

[COMMENT:—Since the publication of Mr. Bok's article in THE JOURNAL for March 21 we have received a large number of letters commending the article. Even if the limit of space did not forbid, it would be unnecessary to publish these. The letter quoted above is the only communication we have received expressing disapprobation of Mr. Bok's paper and of its publication.

It must be borne in mind that Mr. Bok wrote in reply to our editorial comments on what he said in a meeting of the Philadelphia County Medical Society and which was afterward the subject of discussion in the Philadelphia newspapers. It must be remembered, further, that for several years, as editor of the *Ladies' Home Journal*, Mr. Bok has been heart and soul in the fight against "patent medicines." This led him to investigate a closely related condition; that is, the use of nostrums by medical men. Mr. Bok represents the intelligent layman who has given the subject thought and study, and as such his opinions—whatever minor fallacies they may contain—should at least be treated with respect.

The statement made by our correspondent that there is no medicine whose true formula may not be learned from the manufacturer, unfortunately, is not susceptible of proof. Had it been, there would have been no occasion for the organization of the Council on Pharmacy and Chemistry. THE JOURNAL for the last three years has shown repeatedly that the statements of certain proprietors regarding their products are not to be relied on. The suggestion that the individual physician should secure the services of an analytical chemist to determine the composition of the remedies he prescribes is, of course, impracticable. The further suggestion that manufacturers be compelled by law "to make their goods true to formula" is a splendid one. Mr. Bok, however, was dealing with an actual condition, and not with a theory. Whether the physicians, spoken of by Mr. Bok, who prescribed phenalgin, phenol-sodique, *et al*, knew their composition, we do not know. If they did know, they must have obtained their information from the analyses of the Council on Pharmacy and Chemistry, or from some source unknown and unavailable to most of us.

Whatever criticisms may be made of Mr. Bok's paper, the arraignment on the whole is fair, considering always the fact that it was a layman writing from a layman's standpoint; and it is certainly worthy of the careful, dispassionate consideration of physicians. The time has passed when we can wrap ourselves in a cloak of professional dignity and assume an attitude of infallibility toward the public. The more intelligent of the laity have opinions on medical subjects—often bizarre, it must be admitted, but frequently well grounded—and a fair discussion of such opinions can result only in a greater measure of confidence in and respect for the medical profession.—ED.]

Sleeping Outdoors.

DAYTON, OHIO, March 21, 1908.

To the Editor:—A few days ago I read an article in one of the popular magazines on "Outdoor Sleeping." The writer recommended the porch for the whole family, and the picture which accompanied the article, showing white beds, some large, some small, open to fresh air all around, did look very inviting. It was only afterward that I wondered what this whole family did on a rainy night, at least those nearest the edge of the porch, and how the housewife got the dampness out of all the bedclothes the next day.

Sleeping in a tent at all times is open to similar objections, and the window device, which appeared in your columns may be fine for a sick person, but would hardly do for the whole family, especially if the latter contains a few healthy romping babies who would soon run their legs through any such contrivance.

Our family, consisting of my husband, who is a physician, myself and our two boys (5 and 3 years old, respectively), have such a simple, inexpensive, easy way of sleeping outdoors that the impulse to tell about it is irresistible. Our bedroom, about 16 x 17, contains three beds, a large one and two cribs for the boys. It has one unusually large door opening on a wide porch and three windows, two of them also opening on porches. The door is always wide open at night, so is one of the windows, sometimes two, sometimes all of them. The door, of course, is protected by a screen door. During the day, door and windows are closed and register is opened and the beds and floor and walls thoroughly dried and warmed. A little before 6, the children's bedtime, the register is closed and door and windows are opened. We follow this program in all sorts of weather, and it seemed delicious to be wakened by a thunderstorm the other night, the rain coming down in torrents and we seemingly lying in the very midst of it, so comfortable and dry. When the children were small and would not stay covered, I made jackets for them out of old blankets to be worn over their night clothes, donning one or two, according to severity of weather and pinning blankets around their bodies.

If any one doubts the efficacy of ventilating by means of the door, let one of his boys carelessly leave the door open while he is ensconced in his easy chair some cold wintry night enjoying his cigar and book. He will not stop to argue whether the air circulates at the top or the bottom. Of course, there are some inconveniences. "Earth gets its price for what earth

gives us," and air does, too, I suppose. It is not pleasant to get up in a cold room like ours and supply the children with drinks, and our oldest boy, whose bed is nearest the door, complained one night that the snow flakes were falling on his face. But one learns not to mind such little things as that. Some times when the children have bad colds we do discuss the advisability of sleeping like other people—we talk of it during the day, but when night comes we open the door as usual and the colds disappear rapidly in spite of or perhaps on account of the door. One night the baby woke us with a croupy cough. I heard my husband bend over the crib and listen and I was thoroughly frightened and was sure things would have to be closed now. But baby went on sleeping, so did we, and the croup bothered us no more.

When I think of the many, many people, whose lives during the day are spent in close offices or stores, must be spent that way, and whose nights are voluntarily passed in atmosphere just as bad, when the pure air is all around them to be had for the asking only, I almost get the burglar's instinct of opening their doors and windows. My husband makes professional use of our bedroom; uses it for an object lesson. Many a time I have heard him walk refractory patients in there to show them how our babies sleep. They go home and obediently open one window at the top an inch and a half.

MRS. W. F. PRATHER.

Miscellany

"Cactin and Cactina"—a Correction.

An article entitled "'Cactin' and 'Cactina'; an Examination Into Their Physiologic Actions," by Dr. S. A. Matthews of the Laboratory of Experimental Therapeutics of the University of Chicago, appeared in THE JOURNAL, March 21, 1908, page 956. Through some unaccountable error final proof of the article was not submitted to Dr. Matthews, and a number of serious errors were, therefore, overlooked. Some of the important ones are as follows: An x to indicate the point of injection is omitted from the tracings, Figures 1 and 8. In the next to the last line of the second paragraph, "cactin" should read "cactus." In the legend of Figure 6, "7,200" should read "200." In the legends of Figures 8, 9, 10, 11 and 12, the word "cactin" should read "cactina." The same error occurs in the third line of Experiment 2, on page 957, and in the next to the last line of the second paragraph in the second column on page 957. In the legend of Figure 9, "10:00" should be "10:50." In the second paragraph under the heading "Cactina (Sultan)," "This preparation of cactin" should read "This preparation of cactus."

A reprint of the article as corrected will be sent on receipt of a one-cent stamp for postage.

Serotherapy in Epistaxis.—F. Schiffers of Liège reports in the *Arch. internat. de Laryngol.*, February, 1908, two cases of threatening epistaxis which he was able to control by P. E. Weil's technic, namely, injection of about 10 c.c. of fresh, normal human or animal serum. The patient in the first case was a child nearly 10 years old, presenting symptoms of hemophilia or idiopathic purpura. The blood did not coagulate before thirty-two minutes, but nine days after the first injection (30 c.c. of rabbit blood injected subcutaneously in the abdomen), the interval before coagulation had continued to diminish until the blood coagulated in from six to eleven minutes after four similar injections. The child has been in good condition during the nine months since. The second patient was a young woman subject to recurring capillary hemorrhage in the nose for three years, and later in bladder, nose and ears. Marked improvement followed the subcutaneous injection of fresh rabbit serum. Both patients had taken calcium chlorid internally previously without appreciable benefit. Weil's communication on serotherapy of hemophilia and allied conditions was summarized in THE JOURNAL, Dec. 21, 1907, page 2098. Schiffers regards it as a notable advance in treatment of recurring epistaxis.

To Whom Belongs the Calculus?—A German surgeon removed a calculus from the bladder of a patient, and as the calculus was an interesting specimen of incrustation on a foreign body—the tip of a catheter—he used it for a demonstration before his medical society, thus destroying it. When presented with the surgeon's bill, the patient refused to pay the bill unless the stone was returned to him. The *Münch. med. Wochschr.* discussed the affair, closing with the advice to the surgeon to make a bargain for the stone before the operation. The patient will probably then be less insistent on retaining his calculus. A legal authority consulted stated that the stone or whatever is removed from the patient by the surgeon belongs to the patient if claimed within a reasonable time. But if the patient does not demand the stone until the surgeon presents his bill, and if he then makes his payment of the bill contingent on the return of the stone, the surgeon can then proceed with confidence to sue him for the amount. A somewhat similar case was mentioned recently on page 974.

Opsonotherapy in Dermatology.—J. F. Schamberg, in *Journal of Cutaneous Diseases*, December, states that, while this method of treatment has heretofore been limited to lupus vulgaris and other circumscribed pyogenic affections of the skin, it is not impossible that it may be found of value in the treatment of other cutaneous diseases that result from parasitic infection. Thus, in blastomycosis, ringworm, favus and actinomycosis he thinks that it should be given a trial.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

TUBERCULIN.

EDGERTON, MINN, March 18, 1908.

To the Editor:—What preparation of tuberculin does Trudeau use and how does he apply it? HERMANUS DE BOER.

ANSWER.—Trudeau employs Koch's Bacilli Emulsion or Denys' tuberculin. He gives the preference to the latter. Denys' tuberculin is the filtrate of liquid cultures to which 0.25 of 1 per cent. phenol (carbolic acid) has been added to preserve the liquid and to insure the destruction of any tubercle bacillus which might have passed through the filter. The liquid should not be used for two weeks after its preparation, as that is about the time required to kill tubercle bacilli with carbolic acid solutions. Denys' tuberculin is prepared in eight dilutions.

Trudeau begins with a decigram of No. 2, containing 1-10,000 of a milligram and increases by 1-10,000 of a milligram for 10 doses; he then begins with solution No. 3, one decigram of which contains 1-1000 of a milligram and increases by 1-1000 of a milligram for 10 doses. It is evident that in this method, in changing from one solution to another, the amount of tuberculin added to each injection is suddenly increased ten times. As a result of this, apparently reaction occurs more frequently at the second or third injection of a new solution.

To obviate this, the progression for each solution can be by 0.5 decigram instead of 1 decigram for the first three doses, then by 1 decigram for the remaining doses in each solution, or, if time is to be considered, the amount taken off the first three or four doses can be added in suitable proportions to the last six or seven. Thus instead of increasing 0.1, 0.2, 0.3, and so on to ten decigrams, the increase may be 0.1, 0.15, 0.2, 0.25, 0.3, 0.4, 0.6, 0.8, 0.10. In truly apyretic cases with good nutrition the physician in his discretion can make the increase for the first two solutions by 0.2 decigram, but after the dose of 0.01 milligram is reached the increase for the remaining solution should be 0.1 decigram of each solution.

The intervals between the injections are three or four days; generally two injections a week; but as the higher doses, such as 10 milligrams, are reached, the intervals may be five days, and after 100 milligrams six days, while the last three or four doses should be given a week or ten days apart.

The method of Trudeau is fully given by him in the *American Journal of the Medical Sciences*, June, 1907. See also the same journal for August, 1906.

ROVSING'S SILVER NITRATE GAUZE DRESSING.

LACLEDE, MO., March 21, 1908.

To the Editor:—I have a suitable case for the temporary osteoplastic resection of the chest wall described in the abstract of an

article by Rovsing in THE JOURNAL, Feb. 29, 1908, page 138. Please inform me what percentage of silver nitrate was used in the gauze for packing the cavity. FOSTER W. BURKE.

ANSWER.—Rovsing, the leading surgeon of Denmark, has used silver nitrate exclusively for antisepsis for several years. He prepares the gauze by placing it in a brown glass cylinder jar, the bottom of which is covered with a 1 or 2 per cent. solution of silver nitrate. With long forceps the strip of gauze is pressed and kneaded into the fluid until it is thoroughly impregnated with the solution, but not to drip, even when it is squeezed. He uses this gauze wherever iodoform gauze might otherwise be indicated, and recommends it in the highest terms. Without having any odor of its own, the silver nitrate gauze is deodorizing in the highest degree, he says, as it destroys all putrefaction bacteria. It also has a contracting influence on the vessels and a rapid and profound bactericidal action on all microbes, both pathogenic and saprophytic, while it is completely non-toxic. It is soft and flexible and can be packed easily into recesses. He applies this silver gauze wherever he does not expect primary healing, and when he drains, he packs the silver gauze around the drain tube and even covers the mouth of the tube with a thick layer of the gauze so that it will suck up and disinfect the secretions. In his communication on the subject of "Silver Nitrate Antisepsis," in *Hospitalstidende*, Sept. 18, 1907, he adds in respect to the gauze that one of its greatest advantages is in the protection of the wound in temporary resections and incisions in order to prevent infection of the wound from the adjacent skin, especially with osteoplastic flaps, etc.

VIAVI.

PHILADELPHIA, March 24, 1908.

To the Editor:—Has THE JOURNAL published anything regarding the Viavi treatment? If so, please give me the date, as I have all my JOURNALS for the past five years.

E. L. MCDANIEL, M.D.

ANSWER.—Having answered by letter a number of requests similar to the above, we state for the benefit of others that the Viavi treatment was discussed in THE JOURNAL, April 27, 1907, page 1445; and an interesting letter from a correspondent on the subject appeared June 15, 1907, page 2041. Both of these items are reprinted in the pamphlet "The Propaganda for Reform in Proprietary Medicines," a copy of which will be sent to any address for six cents.

WANTED—EFFICIENT MEANS TO EXTERMINATE FLIES.

NEW YORK, March 23, 1908.

To the Editor:—When summer returns, every hospital will be in urgent need of protection against the assaults of the deadly house fly. All means at present employed for that purpose are objectionable or valueless. Is there not a drug, plant or substance known that will either disperse, attract or destroy the pests?

J. M. C.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending March 28, 1908:

Stark, A. N., surgeon, will, in addition to his other duties, Vancouver Barracks, Washington, assume temporary charge of the office of the Chief Surgeon, Department of the Columbia.

Schreiner, R. R., asst.-surgeon, granted leave of absence for 15 days, to take effect on his arrival at Madison Barracks, N. Y., with troops from San Francisco.

Gibner, H. C., asst.-surgeon, ordered to report at the Army General Hospital, Presidio, San Francisco, for temporary duty.

DeWitt, W., asst.-surgeon, ordered to Fort Yellowstone, Wyo., for duty on expiration of present leave of absence.

Woodbury, F. T., asst.-surgeon, relieved from duty in the Philippines Division, and will proceed on the transport to sail from Manila, P. I., about June 15, to San Francisco, and on arrival to report to the Adjutant General of the Army for further orders.

Browniee, C. Y., asst.-surgeon, relieved from duty at the Pacific Branch, U. S. Military Prison, Alcatraz Island, Cal., and ordered to Manila, P. I., for duty on transport to sail from San Francisco about May 5, 1908.

DeLoffre, S. M., asst.-surgeon, leave of absence extended seven days.

Raymond, T. U., surgeon, on arrival in the United States, will proceed to Fort Sam Houston, Texas, for duty at that post.

Kendall, Wm. P., surgeon, relieved from duty at Fort Sam Houston, Texas, and will proceed to Fort Ethan Allen, Vt., for duty at that post.

Grissinger, J. W., asst.-surgeon, granted 2 months' leave of absence.

Borden, W. C., Banister, W. B., Glennan, J. D., surgeons, appointed members of a board of officers, to meet at the call of the president thereof at Manila, P. I., for the examination of such officers of the Medical Department, ordered before it to determine their fitness for promotion.

Greenleaf, H. S., asst.-surgeon, granted four months' leave of absence, with permission to go beyond the sea.

Graves, L. K., contract surgeon, arrived at San Francisco, for leave of absence for four months from the Philippines Division.

Parkman, W. E., contract surgeon, left Fort Keogh, Mont., and arrived at Fort Missoula, Mont., for duty.

Anderson, E. A., contract surgeon, granted leave of absence for two months.

Daywalt, G. W., contract surgeon, relieved from duty at Fort De Soto, Fla., and ordered to the Depot of Recruits and Casuals, Angel Island, Cal., for duty.

Stephenson, A. V., contract surgeon, relieved from duty at the Depot of Recruits and Casuals, Angel Island, Cal., and ordered to Manila, Philippine Islands, for Philippine service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 28, 1908:

Rothganger, G., surgeon, detached from the Naval Hospital, New York, and ordered to continue treatment in said hospital.

Smith, G. T., surgeon, detached from the *Maryland*, April 1, and ordered to instruction at the Naval Medical School, Washington, D. C., April 15.

Bogert, E. S., Jr., surgeon, orders of March 10 modified; ordered to course of instruction at the Naval Medical School, Washington, D. C., April 15.

Spear, D. A., asst.-surgeon, detached from duty at the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, New Fort Lyon, Colo.

Bunker, C. W. O., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Academy.

Alderman, C. G., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *South Dakota*.

Clayton, J. C., acting asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to report before the Naval Medical Examining Board, that city, April 1, for examination for appointment as assistant surgeon, and then to await orders.

Barber, G. H., surgeon, detached from the Naval Hospital, Boston, Mass., April 10, and ordered to instruction at the Naval Medical School, Washington, D. C., April 15.

Wilson, G. B., surgeon, detached from the *Wabash* and ordered to instruction at the Naval Medical School, Washington, D. C., April 15.

Freeman, G. F., P. A., surgeon, detached from the Naval Hospital, Portsmouth, N. H., and ordered to instruction at the Naval Medical School, Washington, D. C., April 15.

Fauntleroy, A. M., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to instruction at the Naval Medical School, that city, April 15.

Huffman, O. V., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *New Hampshire*.

Valz, E. V., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Mississippi*.

Stibbens, F. H., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Mare Island, Cal.

Stuart, M. A., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to duty at Camp Elliott, Isthmian Canal Zone, sailing from New York, N. Y., about April 7.

Taylor, J. L., asst.-surgeon, detached from duty with the marine detachment at Camp Columbia, Cuba, and ordered to instruction at the Naval Medical School, Washington, D. C., April 15.

Hayden, R., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to duty with the marine detachment at Camp Columbia, Cuba, sailing from New York, N. Y., about April 4.

Hale, G. D., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Idaho*.

Boland, M., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Recruiting Station, Detroit, Mich.

Duhigg, J. T., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Recruiting Station, Des Moines, Iowa.

Cole, H. W., Jr., asst.-surgeon, detached from the Navy Yard, Charleston, S. C., and ordered to instruction at the Naval Medical School, Washington, D. C., April 15.

Trible, G. B., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Mare Island, California.

Hermesch, H. R., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Recruiting Station, Cincinnati, Ohio.

Fiske, C. N., P. A. surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to course of instruction at the Naval Medical School, Washington, D. C., April 15.

McLean, A. D., P. A. surgeon, detached from the Naval Recruiting Station, Detroit, Mich., and ordered to the Navy Yard, Portsmouth, N. H.

Blackwell, E. M., P. A. surgeon, detached from the Naval Academy and ordered to instruction at the Naval Medical School, Washington, D. C., April 15.

Woodward, J. S., P. A. surgeon, detached from the Naval Recruiting Station, Cincinnati, Ohio, and ordered to the Naval Hospital, New York, N. Y.

Baker, M. W., P. A. surgeon, detached from the Naval Hospital, New York, N. Y., and ordered to the *Colorado*.

Smith, F. W., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Wisconsin*.

The following medical officers, on March 25, were detached from the Naval Medical School, Washington, D. C., and ordered to duty as specified below:

Kelley, H. L., asst.-surgeon, to Naval Hospital, Canacao, P. I., sailing from San Francisco, Cal., about May 5.

Lawrence, H. F., asst.-surgeon, to the Naval Station, Tutuila, Samoa, and to additional duty on board the *Annapolis*, sailing from Vancouver, B. C., about April 24.

Short, W. H., asst.-surgeon, to the Naval Recruiting Station, Oklahoma City, Okla.

Straeton, R. J., asst.-surgeon, to the Naval Station, Guam, L. I., sailing from San Francisco, Cal., about May 5.

Higgins, S. L., asst.-surgeon, to the Naval Hospital, Canacao, P. I., sailing from San Francisco, Cal., About May 5.

Rose, M. E., asst.-surgeon, to the Naval Recruiting Station, Omaha, Neb.

McDonnold, P. E., P. A. surgeon, detached from the *Connecticut* and directed to wait orders.

Peck, A. E., P. A. surgeon, detached from the Naval Station, Olongapo, P. I., and ordered home to wait orders.

Stepp, J., P. A. surgeon, detached from the *Denver* and ordered home to wait orders.

Randall, J. A., P. A. surgeon, detached from the Naval Recruiting Station, Denver, Colo., and ordered to the *Denver*.

Huff, E. P., asst.-surgeon, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the Naval Station, Olongapo, P. I., sailing from San Francisco, Cal., about May 5.

Wickes, G. L., asst.-surgeon, detached from the Naval Recruiting Station, Omaha, Neb., and ordered to the Naval Recruiting Station, Denver, Colo.

Lando, M. E., asst.-surgeon, detached from the Naval Station, Tutuila, Samoa, and ordered home to wait orders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 27, 1908:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 1-8, 5 cases.
California: Los Angeles, Feb. 29-March 7, 10 cases; San Francisco, 12 cases.
District of Columbia: Washington, March 7-14, 13 cases.
Florida: De Funiak Springs, March 7-14, 4 cases; Jacksonville, 1 case.
Illinois: Chicago, March 7-14, 6 cases; Rockford, 1 case; Springfield, March 5-12, 16 cases.
Indiana: Fort Wayne, Feb. 29-March 7, 5 cases; Indianapolis, March 1-15, 10 cases; Muncie, March 7-14, 4 cases.
Nebraska: Nebraska City, March 7-14, 2 cases.
New Jersey: Newark, March 7-14, 1 case.
New York: New York, March 7-14, 1 case.
North Carolina: Charlotte, March 7-14, 1 case.
Ohio: Cincinnati, March 6-13, 14 cases; Dayton, March 7-14, 1 case; Sandusky, Feb. 29-March 7, 1 case; Toledo, March 7-14, 2 cases.
Oregon: Portland, Feb. 22-March 7, 6 cases.
Iowa: Ottumwa, March 7-14, 1 case.
Kansas: Kansas City, March 7-14, 12 cases; Topeka, Feb. 29-March 7, 1 case; Wichita, March 7-14, 30 cases.
Kentucky: Lexington, March 7-14, 1 case.
Louisiana: New Orleans, March 7-14, 17 cases, 8 imported.
Michigan: Saginaw, Feb. 22-29, 2 cases.
Minnesota: Winona, Feb. 29-March 7, 1 case.
Missouri: Kansas City, March 7-14, 8 cases; St. Joseph, Feb. 15-March 7, 78 cases; St. Louis, March 7-14, 1 case.
Tennessee: Knoxville, March 7-14, 3 cases; Nashville, 6 cases.
Texas: Galveston, March 6-13, 2 cases; San Antonio, March 7-14, 18 cases.
Washington: Spokane, Feb. 29-March 7, 15 cases.
Wisconsin: La Crosse, March 7-14, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Province of Pangasinan—San Fabian, Feb. 25, 100 cases.

SMALLPOX—FOREIGN.

Africa: East London, Jan. 26-Feb. 8, 1 case, 2 deaths.
Arabia: Aden, Jan. 11-25, 4 deaths (imported).
Brazil: Rio de Janeiro, Feb. 2-23, 105 cases, 40 deaths.
Canada: Halifax, March 7-14, 1 case.
Egypt: Cairo, Feb. 11-25, 3 cases, 3 deaths.
Formosa: Jan. 26-Feb. 1, 4 cases.
France: Marseilles, Feb. 1-29, 11 deaths; Paris, Feb. 22-29, 10 cases.
Great Britain: Glasgow, Feb. 22-March 6, 1 case.
Honduras: Tegucigalpa, March 1-8, 2 cases.
India: Bombay, Feb. 11-18, 29 cases; Madras, Feb. 8-14, 2 cases; Rangoon, Feb. 8-14, 1 case.
Italy: General, Feb. 20-March 5, 163 cases.
Japan: Kobe, Feb. 15-22, 181 cases, 108 deaths; Moji, March 16, 1 case, present; Osaka, Feb. 8-15, 199 cases, 63 deaths; Shimonoseki, March 16, present; Tokyo, Feb. 25, present; Yokohama, Feb. 15-22, 64 cases, 16 deaths.
Java: Batavia, Jan. 26-Feb. 8, 6 cases.
Mexico: Mexico City, Feb. 5-12, 2 deaths; Monterey, Feb. 1-8, 1 case, 1 death.
Russia: Batoum, Jan. 13-Feb. 13, 44 cases; Moscow, Feb. 15-22, 48 cases, 12 deaths; Odessa, Feb. 15-22, 4 cases, 2 deaths; Riga, Feb. 22-29, 2 cases.
Spain: Barcelona: March 1-10, 2 deaths; Denia, Feb. 22-29, 5 cases; Malaga, Jan. 1-31, 2 deaths; Valencia, Jan. 25-March 1, 17 cases.
Turkey: Constantinople, Feb. 9-March 1, 9 cases.
Venezuela: Maracaibo, Feb. 18, present.

YELLOW FEVER.

Brazil: Manaos, Feb. 15-22, 6 deaths; Para, Feb. 22-29, 11 cases, 8 deaths.
Ecuador: Guayaquil, Feb. 8-15, 10 cases.

CHOLERA—INSULAR.

Philippine Islands: Manila, Feb. 1-8, 6 cases, 5 deaths.

CHOLERA—FOREIGN.

India: Madras, Feb. 8-14, 26 deaths.

PLAGUE.

Australia: Brisbane, Jan. 18-25, 3 cases, 1 death; Cairns, Jan. 23, 1 case; Sydney, Jan. 11-18, 1 case.
Brazil: Para, Feb. 22-29, 1 case, 1 death; Rio de Janeiro, Feb. 2-23, 3 cases, 1 death.
Egypt: Alexandria, Feb. 23, 1 death; Provinces — Assiout, Feb. 22-26, 8 cases, 8 deaths; Beni Souef, Feb. 24, 1 death; Garbeih, Feb. 26-27, 3 cases, 2 deaths; Keneh, Feb. 24-27, 23 cases, 19 deaths; Menoufieh, Feb. 21, 1 case; Minieh, Feb. 22-24, 3 cases, 1 death.
India: General, Jan. 25-Feb. 8, 9,252 cases, 7,208 deaths; Bombay, Feb. 11-18, 70 deaths; Rangoon, Feb. 1-8, 8 deaths.
Japan: Osaka, Feb. 8-15, 1 case, 1 death.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

FLORIDA Regular Board of Medical Examiners, Ocala, April 13-14. Secretary, Dr. J. D. Fernandez, Jacksonville

NEW MEXICO Board of Health and Medical Examiners, Santa Fe, April 13-14. Secretary Dr. J. A. Massie, Santa Fe.

ARKANSAS Homeopathic Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. V. H. Hallman, Hot Springs.

ARKANSAS Eclectic Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. A. J. Widener, Little Rock.

ARKANSAS Regular Board of Medical Examiners, Little Rock, April 14. Secretary, Dr. F. T. Murphy, Brinkley.

DISTRICT OF COLUMBIA Board of Medical Supervisors, Washington, April 14-17. Secretary, Dr. George C. Ober, 210 B. St. S.-E., Washington.

WEST VIRGINIA State Board of Health, Parkersburg, April 14-16. Secretary, Dr. H. A. Barbee, Point Pleasant.

ILLINOIS State Board of Health, Northwestern University Building, Chicago, April 15-17. Secretary, Dr. J. A. Egan, Springfield.

Methods of Preventing Impersonation at Examinations.

The requirement of photographs by the State Board of Health of Illinois as a means of preventing impersonation at examinations and the methods employed by that board will doubtless be of interest to other boards. From information furnished by Dr. James A. Egan, secretary of the Illinois board, the methods employed are as follows:

Every applicant who is eligible for examination is given a card for admission to the examination and no person is admitted unless he holds such a card which must be displayed on the table to which he is assigned. In case no such card is displayed, applicant is required to wait aside until after the examination has begun, when investigation is made as to whether he is entitled to examination. Each applicant must also display on the table throughout the examination a recently taken, unmounted photograph of himself, on the reverse side of which must appear applicant's signature as well as the signatures of two legally qualified physicians who both certify to the applicant's signature and recommend to the board that he be licensed to practice medicine in Illinois. After the examination has begun two officials inspect the cards of admission and identify the applicants with the photographs. Both cards and photographs are stamped with similar numbers and the cards are taken up, but the photographs are left on the tables, to be taken up at the end of the third day, when the examination is finished, and filed with the applications.

Fourth Annual Educational Conference.

The fourth annual conference of the Council on Medical Education of the American Medical Association will be held at the Auditorium Hotel, Chicago, Monday, April 13, 1908, the session to begin at 10 o'clock. Besides the address of the chairman, and the report of the secretary, there will be reports of special committees on "Preliminary Education," on "What Constitutes a Medical College in Good Standing" and on "The Essentials of a Model Medical Practice Act." There will also be discussions of "The Character of the State Medical Licensing Examination" and of "Practical Ideas Concerning Reciprocity." There is assurance of a large attendance and the promise of an interesting session.

Kansas October Report.

Dr. D. P. Cook, secretary of the Kansas State Board of Medical Registration and Examination, reports the written examination held at Topeka, Oct. 8-10, 1907. The number of subjects examined in was 16; total number of questions asked, 100; per centage required to pass, 75. The total number of candidates examined was 17, of whom 12 passed and 5 failed. The following colleges were represented:

College.	PASSED. Year Grad.	Per Cent.
Howard University, Washington	(1907)	80, 85
Bennett Coll. of Ecl. Med. and Surg	(1907)	80
Louisville Med. Coll	(1894) 80; (1907)	85
University of Michigan	(1904)	80
Lincoln Med. Coll	(1906)	75
University Med. Coll., Kansas City	(1907)	75, 80, 80
Ensworth Central Med. Coll	(1907)	75
Ohio Medical University	(1907)	85

FAILED.

University Med. Coll., Kansas City	(1907)	65
Barnes Med. Coll.	(1906)	70
Creighton Med. Coll.	(1906)	65
Meharry Med. Coll.	(1907)	70, 70

District of Columbia January Report.

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the written examination held at Washington, Jan. 9-13, 1908. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 10, of whom 8 passed and 2 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Howard University	(1907)	75.5, 78.4
George Washington University	(1906) 77.9 (1907)	82.1
American Med. Miss. Coll.	(1906)	84.7
Baltimore Med. Coll.	(1907)	81.0
Niagara University	(1897)	79.5
University of Virginia	(1906)	81.4

FAILED.

George Washington University	(1907)	70.0
University Med. Coll., New York City	(1891)	73.6

Marriages

ALEXANDER T. HENDERSON, M.D., Ashland, Ky., to Miss Alice Paynter of Olive Hill, Ky., March 18.

RALPH FRANCIS WARD, M.D., New York City, to Miss Agnes Brook Alsop of Ozone Park, March 17.

JOHN CRAWFORD, M.D., Esmond, N. D., to Miss Mamie O'Malley of Morris, Minn., February 26.

CHARLES C. JACOBS, M.D., New Orleans, La., to Miss Marie D. Cañizares of Habana, Cuba, February 27.

REYNOLDS HAYDEN, M.D., assistant surgeon, U. S. Navy, to Miss Belle Howard of Washington, D. C., April 2.

Deaths

William Bradford Eaton, M.D. University of Berlin, Germany, 1894; later laboratory assistant to Virchow; assistant pathologist in Jefferson Medical College Hospital for two years, and for the past five years in charge of the laboratory of the Bryn Mawr (Pa.) Hospital; a bacteriologist of note; registrar of the board of health of Delaware County, Pa.; died at his home in Haverford, March 17, from septicemia, resulting from a postmortem wound, after an illness of more than a week, aged 39.

Millard F. Reed, M.D. College of Physicians and Surgeons, Baltimore, 1882; a member of the Kentucky State Medical Association; and president of the Lee County Medical Society; health officer of Lee County and medical referee of the State Board of Health since 1884; one of the most efficient practitioners of the mountain district of Kentucky; died at his home in Beattyville, March 23, after an illness of several weeks, aged 50.

Absalom Pettit, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1870; a member of the American Medical Association; one of the organizers and once president of the New Orleans Medical and Surgical Association; and a member of the board of experts on yellow fever; a diagnostician of marked ability; died at his home in New Orleans, March 16, aged 67.

William G. Rogers, M.D. University of Virginia, Department of Medicine, Charlottesville, 1844; a member of the Medical Society of Virginia, and Albemarle County Medical Society, and one of the oldest and best-known practitioners of Charlottesville; died in that city, March 15, from the effects of a fall sustained six weeks before, aged 86.

Joseph F. Reuss, M.D. University of Würzburg, Germany, 1845; a member of the State Medical Assocation of Texas, and Dallas County Medical Society; a veteran of the Civil War, in which he served as a line officer in Hunt's Brigade, C. S. A.; a practitioner of Cuero until 1905; died at the home of his son in Dallas, March 17, from senile debility, aged 84.

Robert L. Barret, M.D. Jefferson Medical College, Philadelphia, 1854; surgeon of the Louisa (Va.) Blues, afterward Company B, Thirteenth Infantry, C. S. A., and in Baite's (Georgia) Regiment, and the Twenty-fourth Virginia Infantry, during the Civil War; died at his home in Louisa, Va., March 17, after a prolonged illness, aged 74.

Amos C. Jackson, M.D. Indiana Medical College, La Porte, 1845; for more than 60 years a practitioner of Elkhart County, Ind.; a member of the board of education of Goshen, and for six years president of the City National Bank; died at his home, March 19, from senile debility, after an illness of a few days, aged 86.

Luther Turner, M.D. Medical Department of the University of Iowa at Keokuk, 1856; a member of the Missouri legislature in 1876; and for many years a practitioner of Cherry Box, Mo.; died at the home of his son in Caldwell, Kan., January 31, from influenza, after an illness of about seven weeks, aged 78.

Nehemiah Dodge, M.D. Jefferson Medical College, Philadelphia, 1873; for several years assistant physician to the Milwaukee County Insane Hospital, Wauwatosa, and a well-known practitioner of Milwaukee; died in the Milwaukee Hospital March 15, after an illness of more than a year, aged 55.

Charles William Price, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1901; for several years physician to the Ransom Home, Avoca, Pa., and burgess of that town in 1906; died at his home in Avoca, March 18, from disease of the liver, after an illness of several months, aged 33.

John Minor Gillespie, M.D. College of Physicians and Surgeons in the City of New York, 1890; afterward an interne in St. Luke's Hospital, New York City; died at his home, "Winter Quarters" plantation, Tensas Parish, La., from pneumonia, February 20, after an illness of six days, aged 42.

Cornelius B. Smith, M.D. Eclectic Medical Colege of Pennsylvania, Philadelphia, 1879; for many years a practitioner of Clackamas County, Ore.; and in 1895 and 1897 a member of the Oregon legislature; died at his home in East Portland, March 14, after an illness of ten months, aged 61.

Robert H. Holliday, M.D. Washington University School of Medicine, Baltimore, Md., 1868; a member of the Medical Society of the State of North Carolina and Sampson County Medical Society; a Confederate veteran; died at his home in Clinton, March 3, from pneumonia, aged 66.

Samuel Reuben Hayes, M.D. Cincinnati College of Medicine and Surgery, 1886; a member of the Ohio State Medical Association and Miami County Medical Society; physician of Tippecanoe City; died at his home in that place, March 16, from tetanus, after a short illness, aged 45.

Edmund Howard Martin, M.D. Medical College of the State of South Carolina, Charleston, 1843; for a short time a practitioner of Savannah, Ga., New Orleans, and Memphis, Tenn.; died at the home of his son-in-law in New York City, Nov. 3, 1907, from senile debility, aged 83.

James C. Gillespie, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1881; for many years a member of the Knox County (Tenn.) board of equalization; died at his home in Inskip, Tenn., March 17, from disease of the stomach, after a prolonged illness, aged 73.

James L. Baskin, M.D. Vanderbilt University Medical Department, Nashville, 1887; a member of the American Medical Association; died at his home in Ittabena, Miss., Dec. 22, 1907, from injuries received by being knocked off a trestle by a train two hours before, aged 59.

Thomas W. Williams, M.D. Medical College of Indiana, Indianapolis, 1883; of Casey, Ill.; a member of the American Medical Association; died suddenly at Hot Springs, Ark., where he had gone for the benefit of his health, March 14, from heart disease, aged 50.

Jacob Brackett Wentworth, M.D. Medical School of Maine, Medical Department of Bowdoin College, Brunswick, 1876; for many years a practitioner of Lowell, Mass., and later of Brownsfield, Maine; died at the home of his cousin in Lowell, March 17, aged 59.

Asa A. Cannaday, M.D. Medical College of Virginia, Richmond, Va., 1861; assistant surgeon in the Confederate service during the Civil War; died at his home in Jack's Mills, Floyd County, Va., March 13, from influenza, after a short illness, aged 71.

David Henry Chandler, M.D. New York Homeopathic Medical College and Hospital, New York City, 1892; health officer of Cornwall-on-the-Hudson, N. Y.; died at his home in that city, March 19, from pneumonia, after an illness of one week, aged 46.

Brinton Corlies, M.D. Medico-Chirurgical College, Philadelphia, 1896; of Sherwood, West Philadelphia; for several years a medical missionary in China; died suddenly in the Academy of Music, Philadelphia, March 20, from angina pectoris, aged 37.

Clement Venn, M.D. Rush Medical College, Chicago, 1887; of Chicago; formerly superintendent of the Milwaukee County Insane Hospital, Wauwatosa, Wis.; died in St. Joseph's Hospital, March 23, from nephritis, after a prolonged illness, aged 40.

Frank Jones Dewey, M.D. Rush Medical College, Chicago, 1885; a member of the staff of the Central Free Dispensary; died at his home in Chicago, March 23, from injuries received March 8 in a collision between his bicycle and a street car, aged 56.

Franklin W. Hays, M.D. Medical College of Indiana, 1880; of Indianapolis; a member of the American Medical Association; and professor of dermatology and clinical medicine in the Medical College of Indiana; died in Los Angeles, Cal., March 25.

Frank Jay Thornbury, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1889; formerly assistant surgeon in the Public Health and Marine-Hospital Service; died recently in a hospital at Rochester, N. Y., aged about 50.

Frank X. Boucher, M.D. Hamline University College of Medicine, Minneapolis, 1906; of Delano, Minn.; while driving across the tracks of the Great Northern Railway at Delano, was struck by a passenger train and killed, March 10, aged 27.

Katherine Burns, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1892; of Canton, Ohio; a member of the Ohio State Medical Association and Stark County Medical Society; died March 23, after an illness of one year, aged 41.

Robert Fletcher Burleigh, M.D. Dartmouth Medical School, Hanover, N. H., 1887; a member of the American Medical Association, and a specialist on diseases of the eye; died at his home in Braintree, Quincy, Mass., March 23, aged 46.

Walter Coke Folger, M.D. Barnes Medical College, St. Louis, 1898; a member of the Medical Society of the State of North Carolina and Surry County Medical Society; died at his home in Dobson, N. C., February 18, from pneumonia, aged 40.

Jonathan Dearborn, M.D. University of the State of Missouri, Medical School, St. Louis, 1849; for nearly half a century a practitioner of Mount Sterling, Ill.; died at his home in that city, March 18, from senile gangrene, aged 83.

John M. Jones, M.D. Medical Department, University of Nashville, Tenn., 1872; a member of the Tennessee Medical Association and Jackson County Medical Society; died at his home in Newport, Ark., February 13, aged 61.

William McQueen Teetzel, M.D. Trinity Medical College of Toronto, 1896; of Cleveland, Ohio; died at St. Clair Hospital in that city, March 18, from cerebrospinal meningitis, after an illness of less than a week, aged 35.

Henry C. Peck, M.D. Albany (N. Y.) Medical College, 1875; coroner of Broome County, N. Y., in 1899; died suddenly at his home in Port Dickinson, from hemorrhage, following a violent attack of coughing, March 19, aged 54.

Herbert C. Burch, M.D. Hahnemann Medical College and Hospital of Chicago, 1890; mayor of Redfield, S. D.; died at his home in that city, March 15, from cerebrospinal meningitis, after an illness of one week, aged 39.

Robert S. Littrell, M.D. Washington University, Medical Department, St. Louis, 1882; one of the oldest practitioners of Rye, Colo.; died at his home in that place, March 16, from disease of the stomach, aged 59.

Archibald Hume Anderson, M.D. Trinity Medical College, Toronto, 1902; who served in the Boer War; died at his home in Webbwood, Toronto, Ont., from pneumonia, March 15, after a short illness, aged 28.

Arthur John Lawrence, M.D. University of Buffalo (N. Y.) Medical Department, 1875; of Los Olivos, Cal., was found burned to death in his cottage at Camp Meekers, Cal., March 14, aged about 60.

Richard C. Traver, M.D. University of Michigan, College of Medicine and Surgery, Ann Arbor, 1873; died at his home in Somerset Center, Mich., March 18, from pneumonia, after an illness of ten days.

Edwin Porter, M.D. Dartmouth Medical School, Hanover, N. H., 1854; died at his home in Northfield, Vt., March 19, a week after a fall in which he suffered a fracture of the left patella, aged 81.

William A. Dunbar, M.D. University of Louisville (Ky.) Medical Department, 1856; a prominent practitioner of the Kanawha Valley; died at his home in Winfield, W. Va., March 14, aged 75.

Leonardo da Vinci Judd, M.D. Jefferson Medical College, Philadelphia, 1877; for 30 years a practitioner of West Philadelphia; died suddenly from heart disease at his home, March 18, aged 66.

Josiah Richardson, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 186-; died at the home of his sister in Louisville, Ky., February 5, from senile debility, aged 75.

Paul Joseph Weber, M.D. Medico-Chirurgical College of Philadelphia, 1898; attending physician to the Phœnixville (Pa.) Hospital; died at his home, February 21, from pneumonia, aged 34.

David M. Finley, M.D. Rush Medical College, Chicago, 1868; a veteran of the Civil War; died at his home in Cascade, Iowa, March 16, from cancer, after an illness of several months, aged 68.

Guy R. Hanshaw (Years of Practice, W. Va.); for 50 years a practitioner of Ellensboro, W. Va.; choked to death while eating supper at a hotel in Parkersburg, W. Va., March 14, aged 70.

Stephen Tyler Hume, M.D. Berkshire Medical College, Pittsfield, Mass., 1844; for 63 years a resident of Geneseo, Ill; died at his home in that place, March 21, from acute nephritis, aged 89.

John Alexander McIlwain, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1891; of Mount Tabor, Oregon; died suddenly at Montavilla, Ore., March 17, aged 38.

William W. Wyckoff, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1863; died at his home in Trenton, N. J., March 19, after an illness of several months, aged 71.

Alexander A. Crump, M.D. (Years of Practice, Ohio), 1896; said to have been the oldest practitioner of Holmes County, Ohio; died at his home in Millersburg, March 19, aged 88.

Francis H. Roberts, M.D. Homeopathic College and Hospital, Cleveland, Ohio, 1861; of Plainview, Minn.; died at the home of his daughter, near Rochester, Minn., March 14, aged 76.

Frank F. Dennis, M.D. Chicago Homeopathic Medical College, 1894; died at his home in Kokomo, Ind., March 21, from paralysis, after an illness of more than a year, aged 44.

Frank A. Howig, M.D. University of Pennsylvania, Department of Medicine, Philadelphia; a retired practitioner of Big Rapids, Mich.; died at his home, Dec. 10, 1907, aged 79.

Hamilton E. White, M.D. Albany (N. Y.) Medical College, 1880; died at his home in Fort Plains, N. Y., March 20, from pneumonia, after an illness of about six weeks, aged 58.

J. W. Owens, M.D. Eclectic Medical College in the City of New York, 1875; died at his home in Carthage, N. Y., March 16, after an illness of three weeks, aged 80.

George Linville Baker, M.D. Medical School of Harvard University, Boston, 1902; of Boston, Mass.; died at West Haddonsfield, N. J., March 20, aged 28.

William E. Breneman, M.D. Jefferson Medical College, Philadelphia, 1897; died at his home in Saxton, Pa., March 14, after a lingering illness, aged 35.

George T. Thomas, M.D. Rush Medical College, Chicago, 1874; of Kansas, City, Mo.; died at Geneseo, Ill., March 15, from angina pectoris, aged 55.

Frank Lee Benedict, M.D. New York Homeopathic Medical College and Hospital, 1879; died at his home in Portsmouth, N. H., March 13, aged 51.

Preston W. Pope, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1881; died at his home in Nevada, Mo., February 3, aged 56.

Francis E. Rice, M.D. Jefferson Medical College, Philadelphia, 1852; died at his home in New Market, Va., February 22, aged 74.

Marshall D. Bedel, M.D. Miami Medical College, Cincinnati, 1874; died at his home in Norfolk, Neb., February 17.

J. P. Easterly (License, Tennessee, 1889); died at his home, Bright Hope, Greene County, Tenn., recently, aged 69.

Deaths Abroad.

Edwin Robert Bickersteth, F.R.C.S. Edin. 1855; for many years one of the most eminent operating surgeons of the north of England; surgeon to the Royal Infirmary, Liverpool, for

nearly 32 years; one of the first to appreciate and adopt the antiseptic system; lecturer on the principles and practice of surgery in the old Liverpool Medical School; president of the Medical Institution in 1870; and president of the surgical section of the British Medical Association in 1883; died at his home in Liverpool, March 7, after an illness of five months, aged 78.

Andrew Halliday Douglas, M.D. Edin. 1840; F.R.C.P. Edin. 1843; treasurer of the Royal College of Physicians for several years; president of the college in 1869; one of the founders and vice-president of the Edinburgh Medical Missionary Society; died at his home in Edinburgh, from cerebral thrombosis, March 10, after an illness of four days, aged 88.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

More Endorsements of Council Work.

Since the last list was published in THE JOURNAL, we have been informed that the societies of the following counties have adopted resolutions endorsing the work of the Council on Pharmacy and Chemistry of the American Medical Association:

Allegheny County, Pennsylvania.
Winona County, Minnesota.
Randolph County, Arkansas.
San Diego County, California.
York County, Pennsylvania.
Muscatine County, Iowa.
Clay-Becker County, Minnesota.
Hamilton County, Iowa.
Oakland County, Michigan.
Lake County, Colorado.
Grand Forks District, N. Dakota

The secretary of the Oakland County (Mich.) organization writes:

"We expect to devote the next meeting to the discussion of the nostrum evil, although we have already adopted resolutions approving the work of the Council."

The Allegheny County (Pa.) Medical Society, after approving the resolutions adopted by the Kentucky State Medical Association, pledged itself to discourage and to curb the use of unethical remedies and also to condemn (as has been its policy for many years) the advertising in medical journals of nostrums and unethical remedies in general.

STRONG RESOLUTIONS IN DAVIDSON COUNTY, TENNESSEE.

The following resolutions have been adopted by the Nashville Academy of Medicine and Davidson County Medical Society:

WHEREAS, The Nashville Academy of Medicine and Davidson County Medical Society is deeply sensible of the extreme importance of securing pure drugs and of purging our honorable profession from the use of nostrums; and

WHEREAS, We recognize in the Council on Pharmacy and Chemistry, established by the American Medical Association, a body of eminent scientists of high professional standing, whose function is to examine pharmaceutical products and to inform the medical profession as to the composition of said pharmaceuticals; and

WHEREAS, After careful examination of many products it has officially approved a large number of them, and in order more fully to demonstrate its functions has published exposures of a large number of fraudulent preparations that have been foisted on the medical profession and the public in various well-known ways, as examples of the much larger number which they have found of little or no value, or positively harmful; and

WHEREAS, We as physicians are vitally concerned in the work of this council and wish to advance its objects in every way possible; and

WHEREAS, One of the greatest aids to the nostrum manufacturers is the medical press, whether controlled by medical men or interested lay firms; and

WHEREAS, We feel that the medical profession and all agencies controlled by it should now and for all time divorce itself from those interests which prey on the diseased through the sale of nostrums and dishonest proprietary remedies; therefore, be it

Resolved, By the Nashville Academy of Medicine and Davidson County Medical Society, in regular session assembled, that we will do everything in our power to secure the use of pure drugs only, and that we will strive in every way possible to rid our profession from the use of nostrums; and be it further

Resolved, That we most heartily endorse the Council on Pharmacy and Chemistry, and that we extend to it our utmost confidence. Furthermore, be it

Resolved, That we request the members of this body to limit their use of proprietary remedies to those investigated and approved by the Council on Pharmacy and Chemistry, and that those found by them to be of no value, or positively harmful, be treated with rigid ostracism. Furthermore, be it

Resolved, That we will cooperate with the Council on Pharmacy and Chemistry in every way possible and will strive to assist it in attaining its aims. Furthermore, be it

Resolved, That our members be requested to communicate with the editors, owners, collaborators and publishers of the medical journals of this country on this subject, and to announce to the profession through some suitable medium, such publications as are willing to purge their columns of objectionable matter; and furthermore, our members are requested to support such journals, even if they find it necessary to increase their subscription rates. And further, be it

Resolved, That we will lend our untiring energy to the propagation of warfare on these deleterious influences in our profession until we shall have raised it to its proper dignity and shall have afforded the public that protection which is due them through us.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

The following count ysocieties are also conducting the course of postgraduate study, making a total to date—so far as the director has been informed—of sixty-four, which are following it.

ILLINOIS:—Lake County.
KANSAS:—Wyandotte County.
KENTUCKY:—Oldham County.
MICHIGAN:—Bay County.
MISSOURI:—Butte County.
TEXAS:—Guadalupe County.
INDIANA:—Blackford County, Montpelier.
Fayette County.
Elkhart County.
Grant County.
Kosciusko County.

Seventh Month.

SECOND WEEKLY MEETING.

Changes in Uterus and Appendages During Pregnancy.

Uterus: Weight, capacity, diameters, form and consistence, situation. Cervix; direction, softening, effacement. Muscular wall; number and size of fibers, elastic tissue. Mucous membranes, decidua. Vessels; arteries, veins and lymphatics.

Ligaments.

Ovaries: Position, cessation of ovulation, corpus luteum.

Tubes: Change in position.

Vagina: Color, blood-vessels, secretion. Pelvic floor. Vulva.

Pelvic articulations.

Changes in Other Organs and Structures During Pregnancy.

Abdominal Walls: Distension, striæ, linea alba.

Breasts: Enlargement, Montgomery's glands, secretion, roseola.

Heart: Displacement, size, pulse rate. Blood; amount, leucocytes, alkalinity.

Thyroid: Size, changes in nephritis, in albuminuria.

Kidney: Urine, quantity, toxicity, salts and other elements. Albuminuria; frequency in pregnancy, labor and puerperium. Kidney of pregnancy, differs from nephritis.

Bladder. Stomach and bowels.

Mental and nervous changes.

Diagnosis of Pregnancy.

Positive signs: 1. Fetal heart-beat; occurrence, rate, location. Differentiate from funic souffle, from uterine souffle. 2. Movements of fetus; active and passive. 3. Outlines of fetus by palpation.

Probable signs: 1. Abdominal enlargement. 2. Changes in shape and consistence of uterus. 3. Changes in cervix. 4. Intermittent uterine contraction.

Presumptive signs and symptoms: 1. Cessation of menses. 2. Changes in breasts. 3. Nausea and vomiting. 4. Quickening. 5. Discoloration of vaginal and vulvar mucous membranes. 6. Pigmentation of skin and striæ. 7. Urinary disturbances. 8. Abnormal appetite, emotional changes.

Medicolegal

Death from Blood Poisoning Following Cut.

The Supreme Court of Ohio says that in the case of Rheinheimer vs. Ætna Life Insurance Company, an accident insurance policy, after providing for indemnity for accidental injuries resulting in disability, etc., contained the stipulation that, if death resulted solely from such injuries within ninety days, the said company would pay the sum of $5,000. Besides, the policy contained the further provision that it was issued and accepted on certain conditions, one of which was that this insurance did not cover, in event of accident or death, loss of limb or sight, or disability, resulting wholly or partly, directly or indirectly, from bodily or mental infirmity, or disease in any form, proximate or contributory, as a primary, secondary or final cause of accident, injury or death. While the policy was in full force, and the insured was not afflicted with any known physical or mental infirmity, he unintentionally and accidentally sustained a cut or scratch on the index finger of his left hand, from which blood at once issued, through which wound and coincident therewith it became so infected that blood poisoning was at once introduced into the circulatory system of the insured, from the effects of which he died within five days of the accidental injury. The court holds that the death was not within said exception, and that the insurance company was liable. It says that the introducing of the poison was charged to have been simultaneous or next in time to the injury. The inoculating of the poison was the first sequence of the accident. The accidental injury was alleged to have been the sole and proximate cause of the death. The court is not able to say, as a matter of law, that the facts so averred were so improbable or impossible that it should ignore the positive terms of the pleading.

Hospital Exempt from Taxation as a Public Charity—Limiting Physicians to Those Governed by Ethics of American Medical Association.

The Supreme Court of Illinois says, in the case of Sisters of St. Francis vs. Board of Review of Peoria County, that in the St. Francis Hospital charity was extended to all the members of the community, and was not confined to any particular class of individuals. It was an institution of public charity; and where an institution devoted to beneficence of that character is, under the law, exempt from taxation, it does not lose its immunity by reason of the fact that those patients received by it who are able to pay are required to do so, or by reason of the fact that it receives contributions from outside sources, so long as all the money received by it is devoted to the general purposes of the charity, and no portion of the money received is permitted to inure to the benefit of any private individual engaged in managing the charity.

It was argued that this hospital should not be held to be an institution of public charity by reason of the great disparity between the number of charity patients and those who paid for the care and attention they received at it. But this objection seems to the court without merit, so long as charity was dispensed to all those who needed it and who applied therefor, and so long as no private gain or profit came to any person connected with the institution, and so long as it did not appear that any obstacle, of any character, was by the corporation placed in the way of those who might need charity of the kind dispensed by this institution, calculated to prevent such persons making application or obtaining admission to the hospital. The institution could not extend its benefactions to those who did not need them, or to those who did not seek admission.

It was also contended that the nurses who were educated in the training school conducted in the hospital received training fitting them to pursue a profitable business for their private benefit, and that for this reason the hospital was not a public charity. It seemed that the students in this training school received board and instruction in exchange for assistance rendered in caring for patients and in doing other work about the building. It did not appear that the value of that which they so received was greater than the value of the service which they rendered, and there was, therefore, the court holds, no merit in this contention.

Again, the court says that it was urged that the institution was, in fact, being conducted, and this property used, for the benefit of certain physicians in the city of Peoria. This contention was based on the fact that the board of managers of the corporation had established certain rules of government, by one of which rules no physicians were permitted to practice in the hospital except such as subscribed to and were governed by the principles of medical ethics promulgated by the American Medical Association. It did not appear from this record what percentage of physicians practicing in the city of Peoria would be eligible under this rule. It did appear, however, from the testimony of those Sisters who were in actual management of the hospital that they understood the rule permitted all reputable physicians to treat patients in the institution, and that but few physicians practicing in Peoria were excluded. The sisterhood did not provide medical attention. The patient was permitted to call any physician or surgeon he desired who was not excluded by the rule in question. When the patient was unable to pay for medical care he was treated free of charge by the members of the medical profession practicing in the hospital. The question whether or not this was an institution of public charity depended not at all on what class of physicians were permitted to practice there, so long as the institution was not conducted for the purpose of benefiting the physicians of that class. A hospital is primarily for the benefit of the patient, and not the physician. Whether or not it is a charity is to be determined by the treatment which the patients receive at the hands of those in charge of the hospital. It is, of course, possible that a hospital might be established and conducted for the professional and financial benefit of certain physicians, and that it might make a pretense of receiving charity patients for the purpose of bringing itself within the statute exempting the property of institutions of public charity from taxation, but the evidence of this case clearly showed that no such state of affairs existed here.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

March 21.

1 *A Study of Four Hundred Cases of Epithelioma in Private Practice, with Treatment and Results. L. D. Bulkley and H. H. Janeway, New York.
2 *Acute Invasion of the Kidneys by the *Bacillus Coli Communis*. W. H. Thomson, New York.
3 *Arneth's Method in the Clinical Study of Pulmonary Tuberculosis. G. E. Bushnell and C. A. Treuholtz, Fort Bayard, N. M.
4 Diagnosis and Treatment of Early Ectopic Gestation. A. Brothers, New York.
5 *Treatment of Hyperphonia (Stuttering and Stammering) by the General Practitioner. E. W. Scripture, New York.
6 Freud's Method of Psychotherapy. L. P. Clark, New York.

1. **Epithelioma.**—Bulkley and Janeway's study leads them to emphasize among others the following points: While many patients can be permanently cured by caustic pastes, at times

these are disappointing and may aggravate the trouble. The curette requires additional destructive agents to the base left after operation. By the proper use of the *x*-ray we have a safe, and in patients who have not been grossly neglected or maltreated, a sure method of cure, with the least amount of deformity. In cases in which knowledge and experience show that these lighter measures are not likely to avail, recourse should be had to complete surgical removal.

2. **The Kidneys and the Bacillus Coli.**—Thomson says that the commonest occasion of acute septic invasion of the kidneys by the *Bacillus coli communis* is in the course of typhoid fever. It may also supervene in patients who have had chronic interstitial nephritis complicated with gastroenteritis or serious cerebral symptoms passing into coma with hyperpyrexia. Chronic ulcerative colitis is another antecedent. Thomson knows of no serious condition in which so much can be done if its nature is recognized, but which is so generally fatal if not specifically treated. The diagnosis is certain on finding the *Bacillus coli communis* in large numbers in the urine. The treatment is as follows: First a dose of calomel 10 grains (0.65 grams) and compound jalap powder 40 grains (2.60 grams). The specific medication consists of 10 grains (0.65) of hexamethylenamin and 10 grains (0.65) of sodium benzoate in 4 ounces (120 c.c.) of water given in urgent cases every two hours. If the patient is comatose the specific medication should be administered by rectum.

3. **Arneth's Method in Pulmonary Tuberculosis.**—Increased activity in the production of leucocytes is a manifestation of the reaction of the organism to bacterial infection. In cases with good reaction, a leucocytosis is present. In less favorable cases the production of new leucocytes keeps pace with their destruction, and the leucocyte count is normal. When reaction fails, a leucopenia is present. The loss of the older neutrophiles furnishes an indication as to the amount of circulating bacteria and bacterial toxins. The study which Bushnell and Treuholtz report was purely clinical in its scope, undertaken with a view to determine whether or not Arneth's method might be of practical assistance in the treatment of pulmonary tuberculosis. In a patient with no fever and no moisture in the lungs this method enables one to demonstrate the presence of toxic absorption in the absence of manifest signs with the thermometer and stethoscope. In advanced and active tuberculosis it gives, as a rule, no information we do not already possess. Leucocyte counts are always normal. The following are the authors' conclusions: The index of the normal individual at work is between 60 and 70; with complete rest and abundant food, the index should fall below 60. A tuberculous patient can not, therefore, be considered as entirely free from manifest toxic absorption if his index remains above 60 when at rest. Practically, however, a patient with an index between 60 and 70 may usually be allowed moderate exercise. If the index remains below 60, with moderate exercise, the case is very favorable. Some tuberculous patients work for years with indices above 70. Usually in such a case, some activity persists or a small suppurating cavity is present. In general, however, an index of 70 or more is an indication for absolute or relative rest. Certainly no patient can be considered cured whose index is found to be usually above 70. Too favorable conclusions must not be drawn from an occasional fall in the Arneth index, nor must too great importance be ascribed to minor variations. Thirteen cases are reported.

5. **Hyperphonia.**—This article was dealt with editorially in THE JOURNAL, March 28, 1908, p. 1041.

Boston Medical and Surgical Journal.

March 19.

7 President's Address Before New England Pediatric Society. T. M. Rotch, Boston.
8 *Serum Treatment of Epidemic Cerebrospinal Meningitis. C. H. Dunn, Boston.
9 *The Use of Fat-Free Milk in Infant Feeding. C. W. Townsend, Boston.
10 Use of the Roentgen Ray in the Study of Diseases in Children. A. W. George, Boston.

8. **Cerebrospinal Meningitis.**—Since last November, Dunn has used Flexner's antiserum in fifteen cases of epidemic cerebrospinal meningitis, in all but one of which the diagnosis was confirmed by the finding of the *Diplococcus intracellularis* in the cerebrospinal fluid. Eight cases resulted in complete recovery, with no sequels of any kind. Two chronic cases of considerable standing, before coming under observation, resulted in death. Five cases are still pending, four patients being convalescent, the other, a chronic case, having a dubious outcome. He thinks the results in these cases sufficiently good to afford a strong basis of hope that this treatment will prove in cerebrospinal meningitis of value commensurate with that of antitoxin in diphtneria. Though it requires further testing, he thinks that the antiserum should be used as early as possible in every case, lumbar puncture being made as soon as the disease is suspected, and the antiserum being injected through the same needle, without waiting for bacteriologic examination if the fluid obtained is notably cloudy. If after one dose the temperature falls to normal and the symptoms show rapid and progressive improvement, no further dose of antiserum may be necessary. Should the temperature rise, or a lapse occur, it should be treated as for the original attack. If the temperature does not fall, or the symptoms do not improve, the injection should be repeated daily for three days. When no fluid is withdrawn, it is questionable whether or not it is a safe procedure, though Dunn has done it without bad results. He describes the fifteen cases.

9. **Fat-Free Milk in Infant Feeding.**—Townsend's considerations lead to the following conclusions: While fat is necessary to the normal infant, it is more often given in excess than is generally supposed. Excess of fat may cause one or more of a number of symptoms, as, for example, constipation, white and "curdy" stools, a ravenous appetite with atrophy and convulsions. In gastrointestinal disturbances it is desirable to exclude fat. The proteids of undiluted fat-free milk appear to be remarkably well borne even by young infants, and there is an absence of so-called curds from the stools.

New York Medical Journal.

March 21.

11 Progress in Gynecology from a Clinical Standpoint. H. J. Boldt, New York.
12 *Points in Early Diagnosis of Pulmonary Tuberculosis. E. Keating, Chicago.
13 Treatment of Eczema in Infants and Young Children. J. M. Winfield, Brooklyn, N. Y.
14 Value of Stained Smears in the Diagnosis of Diphtheria. E. Burvill-Holmes, Philadelphia.
15 *Symptomatology and Diagnosis of Nephritis. D. Vander Hoof, Richmond, Va.
16 *The Question of Sour Milk. L. Haim, Ithaca, N. Y.
17 Trachoma—Clinical Aspects and Successful Treatment. J. H Egbert, Willimantic, Conn.
18 *How to Estimate the Functional Power of the Heart. P. C Franze, Bad Nauheim, Germany.

12. **Pulmonary Tuberculosis.**—Keating says that medical society discussions of pulmonary tuberculosis indicate that it is difficult for many physicians to erase from their minds the clinical picture of what was formerly conceived to be an early diagnosis of the disease. We are slow to understand that it is not the presence of tuberculous foci that should be cause for alarm, but the manifestation of the infection that should demand prompt and decisive action. The mistaken belief that the tubercle bacillus must be found in the sputum before a diagnosis can be made is responsible for lack of care in clinical examinations, errors in diagnosis, and unnecessary delay in the institution of the proper treatment. The value of the laboratory findings in any disease process should not be minimized, but these are a part only of the evidence and the correlation with the clinical picture is a necessity in arriving at a correct conclusion. He emphasizes the importance of a careful and searching history, mentioning the obstacles often raised by the patient if the object of the inquiry is suspected. The points emphasized are occupation, fresh air in the bedroom, the patient's feeding—is he misled by stomach symptoms and impairing nutrition by light diet?—hemoptysis, night sweats, the liability to become easily tired, especially in the afternoon. Keating then discusses the results of inspection and the early physical signs.

15. **Acute Nephritis.**—Vander Hoof considers his subject under Senator's headings, namely, 1, Acute nephritis, (a) paren-

chymatous, (b) diffuse; and 2, chronic nephritis, (a) diffuse, and (b) indurated. He discusses chronic uremia fully, and states that a large proportion of cases are not diagnosticated, owing to failure to appreciate the various symptoms of chronic uremia, so that the physician's attention is not directed to the renal insufficiency as the cause of ill health. Chronic uremia is a toxemia occurring more or less in all cases of chronic nephritis and with a symptom-complex of considerable diversity. Most disturbances arise in the nervous and digestive symptoms. The motor convulsive symptoms of acute uremia are replaced in the chronic form by mental disturbances; the patients may be apathetic, even somnolent, but sleep is not restful, and even pronounced insomnia may occur. There may be mental confusion, with difficulty in remembering names or recognizing familiar faces; or profound melancholia or mental depression with delusions of persecution. Recurring and persistent headache, frequently occipital, is the commonest symptom. Tonic contractions of different groups of muscles are prominent. Frequently, there are cramps in the calves of the legs, especially at night, and severe and recurring abdominal colic; the pupils are usually contracted, although they dilate in acute uremia. Vertigo is frequent. Various forms of palsies may occur, including strabismus, monoplegia and hemiplegia. Numbness and tingling in the extremities are observed. The disturbances in the gastrointestinal tract are usually periodic; the tongue is heavily coated and there is a foul taste in the mouth. Such symptoms as the foregoing, occurring in persons of the age at which chronic interstitial nephritis is common, should always direct attention toward this lesion, and the presence of increased pulse tension, accentuated second aortic sound, and the history of increased frequency of urination, make the diagnosis very probable, even before the urine is examined. Vander Hoof discusses the eye and urinary conditions, and with regard to the latter says that attempts to estimate the functional activity of the kidneys by cryoscopy, the degree of glycosuria after the use of phloridzin, and the rapidity of the excretion of methylene blue, can not be said to have made for themselves a place of value among our diagnostic aids for the recognition of nephritis.

16. **Sour Milk.**—Haim says that nothing is older than curdled or sour milk, and nothing seems newer than the application which has been made of it. He refers to its use in various forms in patriarchal times, and among the Greeks and Romans; and to its present use in Egypt, the Holy Land, Syria, Anatolia, Turkey, Greece, North Africa, Bulgaria, Armenia, Arabia, Sardinia, Denmark, Norway and Sweden, Russia and India. In all these countries besides being used under various names and in various forms as a food, sour milk has played, and still plays, a great part in empirical medicine. He describes its use in therapeutics, its industrial application, and Metchnikoff's work on it, and points out that milk artificially soured by selected ferments is altogether different from spontaneous sour milk, which, in the absence of any control in its fermentations, may be toxic and present serious dangers of autointoxication. Sour milk, as it is recommended at present, possessing salutary properties which have been proved, is milk which, after being freed of all living germs by sterilization, is soured with a pure culture of specific ferments.

The action of the lactic acid ferments on the three elements of milk is as follows: 1, The casein is coagulated in minute particles, which adhere together and a certain part of it is dissolved; 2, one part of the fat is saponified under the action of lactic acid ferments; 3, by means of one lactase discovered by Buehner, the sugar of milk is converted into lactic acid which does not need any previous digestion in order to be assimilated into the body. He discusses the rôle of yeast in sour milk and its action in the production of alcohol therein, and refers to the frauds practiced on the public, concluding with the following advice: No matter whether the product is manufactured by or under the supervision of a physician, the product should be registered with guarantee of a definite chemical standard and standard of bacteriologic compositions, according to the regulation of the pure food law.

18. **Estimation of the Functional Power of the Heart.**—Franze considers the factors of blood pressure, pulse, respiration, urine, cyanosis and size of the heart, and concludes that Gräupner's method of using the changes in blood pressure after specialized exercises in certain groups of muscles as an aid to examining the heart's power, and the methods by means of the *x*-rays, are the most valuable in themselves. Yet, in his opinion, even taking all symptoms and methods into account, there is no absolutely exact way to arrive at an opinion regarding the functional power of the heart; it can only be estimated with more or less accuracy.

Lancet-Clinic, Cincinnati.

March 14.

19 Résumé of the Modern Teaching on Abortion. J. W. Rowe, Cincinnati.
20 *Recognition and Management of Acute Mastoiditis by the General Practitioner. L. Connor, Detroit, Mich.
21 Mixed Infection in Tuberculosis. H. Schroer, Cincinnati.
22 *Differential Diagnosis of Duodenal Ulcer and Gallstones. W. D. Haines, Cincinnati.

20. Abstracted in THE JOURNAL, Nov. 16, 1907, p. 1708.

22. Abstracted in Society Proceedings in THE JOURNAL, Jan. 18, 1908, p. 232. This article also appears in *Surgery, Gynecology and Obstetrics*, March, 1908.

Surgery, Gynecology and Obstetrics, Chicago.

February.

23 Nicholas Senn. J. B. Murphy, Chicago.
24 *Chronic Constipation; a Consideration of Its Surgical Treatment. A. Lane, London, England.
25 *Bone Sarcoma; Diagnosis, Prognosis and Treatment. W. B. Coley, New York.
26 General Principles of Abdominal Surgery. R. Morison, Newcastle-on-Tyne, England.
27 Relations Between the Ovaries and Uterus. F. Deals, Ghent, Belgium.
28 Conservative Treatment of Sarcoma. W. W. Babcock and G. E. Pfahler, Philadelphia.
29 Acute Osteomyelitis of the Shaft of the Humerus. Removal of the Shaft. Complete Reproduction of the Bone. C. L. Scudder, Boston.
30 *Transperitoneal Ureterotomy for Ureteral Calculus. G. R. [illegible], Jacksonville, Fla.
31 Case of Pubiotomy. T. J. Doederlein, Chicago.
32 *Fracture of the Surgical Neck of the Femur, with Inversion of the Limb. J. D. Bryant, New York.
33 *Fracture of the Femur in Forcible Delivery; Presentation of a Splint. C. R. Robins, Richmond, Va.
34 Résumé of Recent Literature on Pubiotomy. H. F. Lewis, Chicago.
35 Preliminary and After-Treatment of Abdominal Section; Report of 150 Consecutive Cases Without a Death.) J. M. Withrow, Cincinnati, Ohio.

24. **Chronic Constipation.**—Lane details in this article the mechanical principles involved in the surgical treatment recommended by him, with illustrative cases, in the *British Medical Journal*, Jan. 18, 1908, and abstracted in THE JOURNAL, Feb. 15, page 566. He calls special attention to the liability to ulceration of the stomach in patients suffering from intestinal stasis. He points out that evacuation of the bowels may be increased by the assumption of the supine position, particularly if the foot of the bed is elevated, and suggests that the effect of this position may be the cause of the morning evacuation in civilized life. He refers to the diminution of the respiratory capacity in young people and to the greater seriousness of indigestion in the young than in the adult; to the mental depression, depreciation, and inability to concentrate attention on the part of adults; to the effect of chronic constipation on ovarian conditions and its relation to appendicitis, especially through the conversion, by adhesions, of the appendix into an anchor or guy rope for the cecum. He describes the various operative procedures called for under different conditions.

25. **Bone Sarcoma.**—Coley discusses the treatment of bone sarcoma, particularly with relation to the mixed toxin treatment. He describes, as follows, a new method of preparing the toxin, which he has used almost exclusively during the past six months, and which he regards as more powerful and more efficient than the earlier method. *Bacillus prodigiosus* is grown on agar for ten days. There is then a thick red growth, which is scraped off with glass rods and rubbed up with a mortar and pestle to a smooth, rather thick suspension, physiologic salt solution being used as a diluent. This suspension is sterilized by heat—one hour at 75 C. The total nitrogen per cubic centimeter is determined and the weight of nitro-

gen per cubic centimeter, multiplied by the factor 6.25, gives the weight of proteid present. Thus the weight of *B. prodigiosus* proteid in each cubic centimeter is known, and the suspension is diluted to the required strength before mixing with the streptococcus culture. After mixing and bottling the toxins, the mixture is again sterilized for two hours at 75 C. He describes the method of their use and insists particularly on beginning in every case with a small dose, not exceeding a quarter minim, diluted with a little boiled water.

30. Abstracted in THE JOURNAL, Jan. 25, 1908, page 311.

32. **Fracture of Surgical Neck of Femur with Inversion.**—Bryant describes a case of fracture of the surgical neck of the femur with inversion of the limb; a condition of which he had never before seen an instance. He details in tabular form the results of a painstaking search into the literature, which discovered 44 cases of fracture of the neck of the femur with inversion, 15 being intracapsular, 18 extracapsular, while in 11 the variety was not stated. The infrequency of this injury is shown by reference to authorities. He summarizes the reasons for inversion in two classes, academic and those based on observation and autopsy, the latter class including direction of force, periosteal bands, interposition of bone and muscular action.

33. Abstracted in THE JOURNAL, Jan. 25, 1908, page 310.

Journal of Medical Research, Boston.

February.

36 *Experimental Studies on Round Ulcer of the Stomach and Duodenum. F. B. Turck, Chicago.
37 *Parasitic Amebas of the Intestinal Tract of Man and Other Animals. E. L. Walker, Boston.
38 *Fats and Lipoids of Malignant Renal Hypernephromas. H. G. Wells, Chicago.
39 *Experimental and Clinical Notes on Chronic Valvular Lesions in the Dog and Their Possible Relation to Future Surgery of the Cardiac Valves. H. Cushing and J. R. B. Branch, Baltimore.
40 Stereophotography of Pathologic Specimens: Improvements in Technic and New Apparatus. L. B. Wilson and H. G. Andrews, Rochester, Minn.
41 *Ocular Tuberculin Reaction. C. Floyd and J. B. Hawes, Boston.

36. **Round Ulcer of Stomach.**—Turck reports results obtained in his further study on experimental round ulcer of the stomach and the duodenum. Dogs were fed with broth cultures of colon bacilli for several months and typical ulcers sometimes causing death from perforation or hemorrhage resulted "in every animal experimented on." When the feeding was interrupted the ulcers would heal, but if the feeding was resumed, large quantities being given, there resulted violent reactions with cerebral and intestinal symptoms followed by death, indicating a condition of increased susceptibility produced by the preliminary feeding. If smaller doses at intervals were given on the resumption of feeding deep chronic ulcers resulted. Two hundred and eighty-six dogs obtained from different sources were examined for spontaneous peptic ulcers, but none were found. The most important result obtained from the work reported in this article seems to be that by carefully adjusting the quantities of colon bacilli fed to dogs, and the intervals between feeding experiments, a chronic condition results in which typical chronic peptic ulcers develop.

37. **Intestinal Parasitic Amebas.**—This is an exhaustive study of the parasitic amebas of the intestinal tract of man and other animals, including several new species discovered by Walker. A new serviceable method has been devised for the cultivation of amebas on agar on cover-glasses which are inverted over a concave slide, thus giving a "hanging-plate culture"—a simple and effective method for studying the life cycle of amebas.

38. **Renal Hypernephromas.**—Wells has analyzed malignant renal hypernephromas with respect to the fats and lipoids which he finds are present in these tumors in about the same proportions as in the tissues of the adrenal and in much larger amounts than in two carcinomas and one sarcoma analyzed. The fatty materials in hypernephromas are essential constituents of the cells and not the result of degenerative changes. It would seem that tumors in different parts of the body offer many interesting problems from the point of view of their chemical composition.

39. **Chronic Valvular Lesions.**—Cushing and Branch, acting on a suggestion of Sir Lauder Brunton that it might be possible to relieve mitral stenosis by surgical measures, have succeeded in obtaining operative recoveries after a considerable number and variety of experimental valvular lesions in dogs made by a direct approach to the valve through the heart wall. "It remains to demonstrate the possibility that an experimentally produced mitral stenosis with compensatory failure can be symptomatically improved by division of the narrowed mitral orifice on the living animal, before attempting by a similar procedure to relieve the corresponding pathologic lesion in man."

41. **Ocular Tuberculin Reaction.**—Floyd and Hawes believe that the ocular-tuberculin test will be of great service when used in conjunction with older methods, which, however, it will not replace; also that it may be of value in acute febrile conditions. They regard it as free from danger to the patient.

American Journal of Medical Sciences, Philadelphia.

February.

42 *Clinical and Pathologic Differential Diagnosis of Diseases of the Female Breast. J. C. Bloodgood, Baltimore.
43 *Fundamental Principles in Treatment of Functional Nervous Diseases with Special Reference to Psychotherapy. J. Collins, New York.
44 *Pathogenesis and Treatment of Neurasthenia in the Young. R. N. Willson, Philadelphia.
45 Nervous Manifestations of Arteriosclerosis. A. Stengel, Philadelphia.
46 *Arteriosclerosis in the Young. F. Fremont-Smith, Washington, D. C.
47 *Lack of Gastric Mucus (Amyxorrhea Gastrica) and Its Relation to Hyperacidity and Gastric Ulcer. J. Kaufmann, New York.
48 *Etiology and Symptomatology of Cerebrospinal Meningitis. T. A. Claytor, Washington, D. C.
49 Complications and Sequels of Typhoid. C. D. Selby, Toledo, Ohio.
50 *Laryngeal Complications of Typhoid, with Report of Two Cases. W. Rieser, New York.
51 Purulent Cerebrospinal Meningitis Caused by the Typhoid Bacillus without the Usual Intestinal Lesions of Typhoid. J. N. Henry, Philadelphia.
52 Chronic Fibrous Myocarditis in Progressive Muscular Dystrophy. C. H. Bunting, Charlottesville, Va.
53 *Certain Unusual Forms of Hepatitis. D. Symmers, New York.
54 Case of Unilateral Mixed Nystagmus Benefited by Treatment. C. A. Veasey, Philadelphia.

42. **Diseases of the Breast.**—Bloodgood discusses intracanalicular myxoma, fibroadenoma, diffuse virginal hypertrophy, malignant tumors, the possible tumors in the breast of women over 25 years of age, solid benign tumors, carcinoma, and its varieties, cystic tumors and sarcoma.

43. **Functional Nervous Diseases.**—Collins' paper aims to present a brief sketch of present-day therapeutic tendencies from the point of view of the practitioner who has much to do with nervous diseases, rather than to give a résumé of therapeutic novelties in neurology. He says that nervous diseases yield more uniformly to treatment than any other class of diseases of comparable nature and severity. Practically all nervous disorders and diseases are chronic. The organic are painful, incapacitating and deforming; the functional are more potent to cause misery and suffering than any other form of disease. While he would not deny that a diagnosis is a most desirable factor in the successful treatment of any disease, he asserts that a correct diagnosis is by no means necessary for the successful treatment of many neuroses. The actual cures undoubtedly affected by faith curists, Eddyites, osteopaths, shrines, charlatans and systems innumerable, render that fact indisputable. No source of knowledge is too mean and contemptible for us to disdain it, neither does it detract from the dignity of our calling to admit the instructive value of these sources. The present rampancy of the supernatural, mediatorial and "miraculous" in the treatment of disease may be interpreted as evidencing: 1, That the mind has a not easily calculated influence over the body, to influence it beneficially or detrimentally (which every one knows or professes to believe); 2, that this influence is being utilized meretriciously by many persons outside of the medical profession; and 3, that ignorance or neglect of the important part played by moral treatment in the cure of nervous disease, necessarily tends to our discredit in the exact ratio in which it tends in the given case to the patient's disadvantage. Not only functional, but

even organic diseases, aside from those dependent on syphilis, may be efficaciously dealt with by this moral treatment, which has been shown experimentally and empirically to restore bodily tone, improve general and local nutrition, add functional potentiality to the will, and aid in dislodging fear and overcoming its infirmity. Collins opposes the claim that it requires special skill to treat nervous disorders successfully, and contends that the general practitioner should study the proper manner of treating them with the same care that he studies infant feeding or typhoid fever. The most important thing is to convince the patient that his disorder is fully understood, which is not the same thing as merely inspiring general confidence in the physician's skill and judgment. It is a sentient condition of the patient that develops unconsciously. Collins is convinced that imaginary maladies are very rare, and that when they occur they are real. Patients are apprehensive of the seriousness of their symptoms, they anticipate disaster and dread impending occurrences, but these are the symptoms, not of an imaginary malady, but of disorders of which fear and want of self-reliance are the principal features. On these principles he considers in detail the subject of neurasthenia and psychasthenia and applies the foregoing doctrines to their treatment.

44. **Neurasthenia in the Young.**—Willson says that at least in the young every instance of so-called neurasthenia is, in the beginning, the result of some definite preventable and discoverable cause, which, if removed in time, will admit of a cure of the patient. He describes four intractable cases treated on the foregoing principles. He says: "Call neurasthenia what one will, or call what one will neurasthenia, the fact remains that it is not even a complete symptom-complex, merely a portion of one, that is founded essentially on a lowered nutrition of not only the nervous system, but of one and all of the tissues and systems of the body, the circulatory system, the bony system, the muscular system, the nervous system also, and above all on altered and diminished food properties of the blood and lymph."

46. **Arteriosclerosis in the Young.**—Fremont-Smith's paper contains a critical analysis of the literature of this subject from all points of view. There appears a remarkable uniformity in pathologic changes in a great variety of conditions. A systematic study of arteritis in the young may prove of distinct assistance in the comprehension of early developments in adult life.

47. **Gastric Mucus.**—Kaufmann says that routine examinations of the stomach contents have hitherto been too much confined to the gastric juice, and that not enough attention has been paid to the protective secretion of mucus and its disturbances. He discusses the recognition of mucus, the lack of mucus, and particularly with hyperacidity, the action of silver nitrate on the secretion of mucus, and the relation of lack of mucus to gastric ulcer.

48. **Cerebrospinal Meningitis.**—Claytor reviews the literature, adds a few observations of his own, and urges that, as it seems impossible to make a diagnosis between meningitis due to the meningococcus and that caused by other organisms, except by spinal puncture, all sporadic cases should be reported. He reports two cases.

50. **Laryngeal Complications of Typhoid Fever.**—Rieser's conclusions are: That pathologic involvement of the larynx is very much more frequent than clinically diagnosticated. Clinically, laryngeal involvement may constitute one of the gravest complications of typhoid fever; the stealthy and sudden onset of edema making it particularly to be dreaded. Early tracheotomy is the rational and life-saving operation and should be performed as soon as stenosis is positively established. The frequency of this complication pathologically, and the possibility of its extreme clinical gravity, warrant its receiving more careful consideration than it has heretofore received in the text-books in discussions of typhoid fever, and at the bedside of the patient.

53. **Hepatitis.**—Symmers describes five cases of a condition anatomically distinct from chronic atrophic cirrhosis of the liver and from the known acute inflammatory or degenerative lesions of this organ. Two types are described, one a simple subacute diffuse hepatitis, and the second, a combined acute and subacute diffuse hepatitis. He considers that it will be justifiable to conclude that a definite anatomic entity exists in the form of an acute diffuse hepatitis, *per se*, and that this lesion is subject to acute exacerbations. It should be assigned to a place midway between atrophic cirrhosis of the liver and the lesion or group of lesions commonly described under the heading of acute yellow atrophy.

New York State Journal of Medicine, New York.

February.

55 *Questions of Broad Consideration, Outside of Technic, That Concern the Organized Medical Profession. F. C. Curtis, New York.
56 *Nihilism and Drugs. A. Jacobi, New York.
57 *County Laboratories and Their Uses—Fifteen Months' Experience. O. J. Hallenbeck, Canandaigua, N. Y.
58 *Warm Versus Cold Anesthetics. J. T. Gwathmey, New York.
59 Puerperal Mastitis, Its Prevention and Treatment. J. A. Schmitt, New York.
60 Legislative Notes. F. Van Fleet, New York.

55 and 56.. Abstracted in THE JOURNAL, Feb. 8, 1908, p. 476.

57. Abstracted in THE JOURNAL, Feb. 28, 1908, p. 722.

58. **Anesthetics.**—Gwathemey refers to a former paper published in THE JOURNAL, Oct. 27, 1906, in which he expressed his preference for warm over cold chloroform. He considers warm chloroform vapor as safe theoretically as cold ether vapor, but can not speak with confidence of it practically. He describes experiments on animals with nitrous oxid and oxygen at room temperature, from which he concludes that warm nitrous oxid and oxygen are at least over twice as safe as gases at their normal temperature and from three to five times as safe as the cold gases. Nitrous oxid and oxygen being already the safest anesthetic, over 40,000 cases having been recorded without a single fatality, it stands in a class by itself. Warm gases are pleasanter to inhale, and the authors conclude that all anesthetics heated to the temperature of the blood are increased in value as regards life without decreasing their anesthetic effect. He has no experimental data on ethyl chlorid, but considers on analogy that the results would probably coincide with those of chloroform, ether and nitrous oxid.

University of Pennsylvania Medical Bulletin, Philadelphia.

February.

61 *Synopsis of Studies in Metazoan Parasitology in McManes Laboratory of Pathology, University of Pennsylvania. A. J. Smith, Philadelphia.
62 *Contributions to Systematic Helminthology. A. J. Smith, H. Fox and C. Y. White, Philadelphia.
63 Biographical Sketch of John Redman Coxe and John Redman.

61. **Metazoan Parasitology.**—Smith gives a descriptive list of seventy-six parasites examined in the university laboratory, with a view to aiding parasitology in determining the range of occurrence of parasites, the variety of hosts in which they have been found, and their habitat in the host. Of vermes four trematodes, twenty-three cestodes, forty-one nematodes, are described, and of arthropoda eight species. The article is illustrated.

62. **Systematic Helminthology.**—Smith, Fox and White give notes of identification of eleven helminthologic species supposed for the most part to be new species.

St. Louis Medical Review.

February.

64 Radium as a Therapeutic Agent. J. W. Wainwright, New York.
65 *How to See All the Organs of the Body with Our Naked Eye. M. I. Knapp, New York.
66 Surgery of the Ureter: A Historic Review. B. M. Ricketts, Cincinnati.

65. **Naked Eye Inspection of Internal Organisms.**—Knapp's startling title does not appear to mean an actual vision of the organs themselves, but rather the education of the senses to an appreciation of their condition, through alterations in the surface unrecognizable by untrained eyes. He asserts that every physician, every student, can acquire the capacity by applying himself assiduously to it. He has been accustomed to make inspection of the entire body a mere routine, insisting on all patients stripping for the purpose. He says: "The

seeing beneath the skin depends entirely on the appreciation of purely physical laws. the thickness of the abdominal wall makes absolutely no difference, in fact, the fatter the person the better we can see. The principles of seeing beneath the skin I have found to be based on these facts: 1. All organs move with respiration, hence the respiratory movements are necessary in order to see the organs. 2. Muscles in a relaxed condition and the overlying skin adapt themselves to the shape of the structures beneath them. 3. Enveloping layers of tissues magnify the size of the organ beneath them or any abnormality of the organ beneath them. Each additional layer of tissue over any irregularity in adapting itself to the contour of this irregularity increases the size and thickness of that irregularity by just so much as corresponds to the thickness of such overlying layer. Hence, any localized thickening of an organ is magnified by the superimposed layers of tissue and can, therefore, be recognized on the skin. For that reason, a fat person shows the outlines better, contrary to the present understanding. An illustration of this is afforded when we palpate the abdominal aorta or the iliac arteries. They appear much thicker to the touch because we have to feel through several layers of tissues and organs. 4. Every line and every unevenness of the skin, either as an elevation or depression, is not a chance product, but the result of a definite cause." He reports six cases of such diagnosis by inspection made in the presence of satisfactory witnesses in public institutions, and subsequently verified.

Pennsylvania Medical Journal, Athens.

February.

67 *Oration on Bacteriology. M. V. Ball, Warren.
68 *Infectious Spondylitis. D. Silver, Pittsburg.
69 *Tendon Transplantation. J. H. Jopson, Philadelphia.
70 *Misapplied Mechanics in the Treatment of Flat Foot. H. A. Wilson, Philadelphia.
71 *Modern Orthopedic Surgery. G. G. Davis, Philadelphia.
72 Case of Acute Gastrectasis Following Typhoid Fever and Premature Birth: Recovery. A. R. Roussel, Philadelphia.
73 Clinical Significance of Pain in the Epigastrium. J. J. Gilbride, Philadelphia.
74 *Too Much Diet and Not Enough to Eat. A. Bernheim, Philadelphia.
75 Epiconus Symptom-Complex in Cerebrospinal Syphilis. W. G. Spiller, Philadelphia.
76 Obstructive Lesions of the Upper Air Passages: Importance of Their Diagnosis and Treatment. F. A. Faught, Philadelphia.

67. **Bacteriology.**—In the oration on bacteriology, Ball, among other things, insisted that the ground work for this study should be acquired in universities or colleges, where the natural sciences are taught by specialists. Medical colleges should not be required to give courses in elementary biology, zoology, entomology and bacteriology. The general practitioner can no longer be expected personally to perform all the tests necessary for the diagnosis of disease, so that clinical laboratories should be established, either at hospitals, or as state institutions, under the charge of experts and should be easy of access to the physician. Medical societies might initiate such undertakings. The methods of the laboratory work should find more imitators in the field of practical medicine.

68 and 69. Abstracted in THE JOURNAL, Nov. 9, 1907, page 1625.

70 and 71. Abstracted in THE JOURNAL, Nov. 9, 1907, page 1624.

74. **Diet.**—Bernheim says that physicians once in a while should use laboratory ideas and not depend solely on empirical experiments. Whenever a regulation of the ingestion of food becomes necessary for weeks or months, the physicians must see to it that the food is of a kind that will not only still the hunger and quench the thirst, but will feed the body. The general feeling of the patient, and particularly the scale, gives the best assurance for this effect.

Maryland Medical Journal Baltimore.

February.

77 *Treatment of General Suppurative Peritonitis. R. W. Johnson, Baltimore.
78 Propaganda for the United States Pharmacopeia and the National Formulary. J. Ruhräh, Baltimore.
79 What the Druggist Should Do. H. A. B. Dunning, Baltimore.

77. **Suppurative Peritonitis.**—Johnson discusses the changes that have taken place in the treatment of peritonitis during the last few decades, describes the technic of the Murphy method, and says that he has treated a limited number of patients with diffuse or general peritonitis most satisfactorily by Murphy's method. It has taken the despair out of this disease, as antitoxin did out of diphtheria, and has relegated it to about the same category as diphtheria under antitoxin treatment. He heartily commends it for its simplicity, ease of performance, physiologic basis, and last and most convincing, its life-saving results.

Southern California Practitioner, Los Angeles, Cal.

February.

80 *Opsonic Index as a Guide to the Administration of Vaccines. E. L. Leonard, Los Angeles.
81 *Intratracheal Injections in the Treatment of Chronic Respiratory Affections. P. S. Donnellan, Philadelphia.
82 Arteriosclerosis. S. P. Black, Los Angeles.
83 Id. J. M. King, Los Angeles.
84 Id. T. G. Davis, Los Angeles.

80. **Opsonic Index.**—Leonard considers the opsonic index of value in mixed infections, such as occur in pulmonary tuberculosis, sinuses, empyema, inoperable fistulas, indolent ulcers and old infections resisting ordinary surgical and medical treatment. Cultures made separately from the various organisms present will, through the opsonic index, demonstrate the most infective agent. The proper dosage of tuberculin in fluctuating cases of localized tuberculosis, in which the patient is all the time inoculating and reinoculating himself, may be estimated only through observation of the opsonic index. A persistently low index guides to the use of as large a dose of tuberculin as possible consistent with controlling the negative phase. It is of little value for dosage in furunculosis and acne. The errors possibly due to the personal factor, even with laboratory men, render it advisable to take many opsonic indices for their elimination, before treatment is begun. Leonard regards it as of great value in diagnosis and the vaccine treatment.

81. **Intratracheal Injections.**—Donnellan speaks highly of medicated injections into the trachea with an annealed glass syringe, having a barrel of 4 drams (15 grams) capacity, fitted with an asbestos plunger, and reinforced with a metal jacket with revolving collar and finger rings. The cannula is of metal, right-angled, with closed olivary ending, having four fine lateral openings. Anesthetization with 4 per cent. cocain is used; the selected medication is first heated to 100 F. Two drams is about right to begin with, the injection being made slowly under the laryngeal mirror. The injections are not only useless but harmful in acute or subacute affections. Any of the fluid petroleum oils form good vehicles, or pure olive oil or a specially distilled glycerin. Creosote, menthol, camphor, from 1 to 4 per cent. may be added, and in irritable cough ⅛ grain (0.008) of codein; in fetid bronchitis ½ grain (0.03) of iodoform or potassium permanganate. Watery or alcoholic solutions should never be used.

Laryngoscope, St. Louis.

January.

85 Clinical Observations in Intracranial Complications of Otitic Origin. J. A. Stucky, Lexington, Ky.
86 Pyogenic Diseases of the Brain of Otitic Origin. J. F. McKernon, New York.
87 An Original Method of Opening the Antrum of Highmore Intranasally, with Exhibition of New Instruments. D. T. Vail, Cincinnati.
88 *Retropharyngeal Abscess. M. A. Goldstein, St. Louis.

February.

89 Persistently Recurring Papillomata of the Nasal Chambers with the Differential Diagnosis of Epithelial Proliferation. J. Wright, New York.
90 General Lymphosarcoma Accentuated in the Pharynx. F. P. Emerson, Boston.
91 Case of Fibromyxoma, Involving the Left Superior Maxilla, Including the Alveolus, Floor, Anterior and Posterior Walls, and of Seven Years' Duration. W. H. Haskin, New York.
92 Intracranial Lesions of Otitic Origin. J. J. Kyle, Indianapolis.
93 Purulent, Hyperplastic and Atrophic Catarrh, Different Stages of One and the Same Disease or Condition. J. North, Toledo, Ohio.
94 Submucous Operation for the Reduction of Hypertrophied Turbinals. C. P. Linhart, Columbus, Ohio.
95 Vaseline Oil in the Dressing of the Radical Mastoid Operation. J. N. Roy, Montreal.

88. **Retropharyngeal Abscess.**—Goldstein reports three cases with comments. In the third case tracheotomy was rendered necessary by rapidly increasing cyanosis. He calls attention to the value of vaporizing compound tincture of benzoin in the room, and near the throat, after tracheotomy, as a preventive of septic bronchitis or pneumonia in the lower breathing tract, which is so liable to occur in young patients after this operation, as well as for its soothing properties. He points out that according to the literature nearly all the reported cases have occurred in children under 5 years of age. This, he thinks, may be logically attributed to the unusual activity of the lymphoid tissue, so that whenever an acute infectious process takes place in the nose, nasopharynx, accessory sinuses, ear, tongue, or larynx, a continuity of lymphoid tissue may readily carry such infection into the depths of the pharyngeal walls. Retropharyngeal lymphangitis without pus formation is of rather frequent occurrence. As to instruments, he considers nothing more serviceable than a slender, sharp-pointed bistoury, guarded and guided by the operator's forefinger. He does not approve of the upright position with the head thrown back, but prefers the patient flat on the back with the head overhanging, so that the outflow of pus may be easily controlled. The incision should be free, deep and long, and as near the median line as possible, to avoid the internal carotid.

95. This article was also published in the *Montreal Medical Journal*, October, 1907.

Journal of Advanced Theirapeutics, Rahway, N. J.

February.

96 What Is Pain? An Attempt to Define Its Nature and Origin. F. H. Humphris. Honolulu, H. I.
97 Mechanotherapy of Autointoxication. F. H. Morse. Boston.
98 Cancer and Its Treatment by Cataphoric Sterilization. G. B. Massey, Philadelphia.

Milwaukee Medical Journal.

February.

99 Gastrointestinal Arc. B. Robinson, Chicago.
100 Affinitive Cognates Derived from the Vegetable Kingdom. J. Burke, Manitowoc, Wis.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

March 7.

1 Surgery of the Spinal Cord and Its Membranes. D. J. Armour.
2 *Diatheses: The Personal Factor in Disease. D. Duckworth.
3 *Case of Aortic Aneurism, with Extensive Arterial Disease. S. Taylor.
4 *Case of Wertheim's Hysterectomy for Advanced Carcinoma of the Cervix. A. H. N. Lewers.
5 *Hernia of the Iliac Colon. R. A. Stoney.
6 Pathology and Etiology of Intussusception from the Study of 1,000 Cases (concluded). D. C. L. Fitzwilliams.
7 Seven Years' Experience with the Finsen Light Treatment. J. H. Sequeira.
8 Case of Egg Poisoning. A. T. Schofield.
9 Motoring Notes. C. T. W. Hirsch.
10 Warning Against Indiscriminate Use of the Ocular Reaction (Calmette) in the Diagnosis of Tuberculosis. A. M. Ramsay.
11 Case of Poisoning by Gelsemium. J. Bell.

2. See abstract No. 46, in THE JOURNAL, March 28, page 1084.

3. **Aortic Aneurism.**—Taylor describes a case, and discusses the various pressure signs—dysphagia, irregularity in radial pulse, inequalities of the pupil, tracheal tugging, the tracheal or expiratory whiff, none of which, however, is pathognomonic of thoracic aneurism, but may be caused by any neoplasms or other tumors, fluid or solid. Notwithstanding the many triumphs of surgery, thoracic aneurism is not in its category. He refers to seventeen methods of treatment, tried under his observation, to secure coagulation, the result being disastrous in every case. He excepts from this adverse opinion ligation of one or more large arteries springing from the arch of the aorta, but discountenances any procedure on the sac itself. He disapproves of the introduction of gelatin injections, and of prolonged rest in bed, with or without large doses of potassium iodid, and cites cases in support of his view. The physician must be candid with the patient and forbid everything that tends to quicken the pulse rate, either in occupation, relaxation or amusement—alcohol, excitement, controversies, etc. The rich patient should retire altogether, however young, and regard the rest of his days as the "evening of life." The poor patient must exchange his occupation for the least energetic one open to him, e. g., that of a time-keeper.

4. **Wertheim's Hysterectomy.**—Lewers divides carcinoma of the cervix into three groups. 1, Cases in which it is at once evident that no operation, however extensive, would be of any use; 2, those in which the growth is in an early stage, and in which it seems probable that either the supravaginal amputation of the cervix or vaginal hysterectomy would be an effective treatment. This group unfortunately contains only a very small proportion of all cases. Lewers has of late years relied exclusively on vaginal hysterectomy for these cases. 3. Those in which the disease has attained a considerable degree of advancement when the patient is first seen. Here vaginal hysterectomy is useless, and Wertheim's hysterectomy is indicated. Its drawbacks are not inconsiderable. It is the most difficult operation in gynecologic work, is necessarily severe as regards the patient, and the mortality, when performed when vaginal hysterectomy is inadvisable, is high. Yet in these cases it seems to be the only treatment offering a fair prospect of relief.

5. **Hernia of the Iliac Colon.**—Stoney describes three cases and discusses the literature. The condition may occur in three distinct ways: 1. The intestine may be drawn into or through the inguinal canal by an extra attachment of the gubernaculum testis. 2. It may be drawn down by a protrusion of the peritoneum covering it in the formation of the sac of an ordinary hernia. 3. There may be a giving away or lengthening of the supporting apparatus of this portion of the intestine, and a subsequent protrusion of it by the expulsive action of the abdominal muscles and diaphragm. This classification corresponds to that of Lockwood for hernia of the cecum. The two main points to attend to in the operation are, first, not to interfere with the blood supply of the loop of intestine, either while trying to separate adhesions, or while dissecting up the posterior wall of the sac above the loop of intestine from the surrounding tissues, for this would mean almost certain gangrene of the gut; and second, an attempt should be made to stitch the cut edges of the peritoneum after the main part of the sac has been cut away, and the gut and remainder of the sac together have been reduced inside the abdominal cavity. It was on these lines that operation was carried out in both the cases reported by Stoney.

British Medical Journal, London.

March 7.

12 *Pulmonary Tuberculosis in Infancy and Childhood. R. A. Young.
13 *Modern Treatment of Surgical Tuberculosis. V. W. Low.
14 *Case of Actinomycosis (Streptotrichosis) of the Lung and Liver Successfully Treated with a Vaccine. W. H. Wynn.
15 Case of Abscess of the Lung Cured by Incision and Drainage. C. H. Cattle and J. R. Edward.
16 Case of Phlegmonous Gastritis. A. J. Hall and G. Simpson.
17 Successful Case of Thoracoplasty for the Relief of Chronic Empyema. J. R. Lunn.
18 Typhoid Carrier of Twenty-nine Years' Standing. G. Dean.

12. **Pulmonary Tuberculosis in Infancy.**—Young points out that the early diagnosis of pulmonary tuberculosis in young children is often extremely difficult, from the non-appearance of sputum, the liability of children to a variety of respiratory affections, the greater proportionate size to which the lesions must attain to become physically demonstrable, and the fact that the incidence often follows infectious disorders, thus diverting attention from its real nature. Young has analyzed the records of 337 cases in children at the Brompton Hospital, for cough, expectoration and wasting, and in only 45 were definite tuberculous signs found; and examination of the sputum confirmed these in only a very small number. The possible methods of infection are: 1, Transmission from mother to fetus *in utero*—congenital or hereditary tuberculosis; 2, inoculation of wounds—inoculation tuberculosis; 3, inhalation of tubercle bacilli in dust—aërogenous or inhalation tuberculosis; 4, the swallowing of bacilli in food, especially milk—ingestion or enterogenous tuberculosis; 5, infection through the ear, Eustachian tube or tonsil. Although congenital tuberculo-

sis has been conclusively proved to occur, by the discovery of the tubercle bacillus in the organs of the fetus and in the placenta and by animal experimentation, this means, as well as inoculation, may be summarily dismissed as a pathologic curiosity. Ear infection, etc., is also probably very limited. The discussion, therefore, rages about the relative importance of inhalation and ingestion infection. Young cites the main evidence on both sides and considers it wise to bear both in mind, and to take preventive measures accordingly. Infancy means high susceptibility from low resisting power, so that very short exposure is a sufficient cause. Inherited predisposition is still a moot point. He cites many striking illustrations to show the part played by defective hygienic and domestic conditions. Typical giant-cell tubercles develop rapidly, with a marked tendency to coalesce. Caseation is almost invariable; calcification and fibrosis are extremely rare; the lymphatic structures are prone to be implicated primarily or early; and there is a strong tendency toward generalization from blood infection. The special characteristics of the disease in infancy and early childhood may be summarized briefly in the statement that the lymphatic system appears to be the most important means of protection, and that when this barrier proves ineffective, through caseation and the subsequent changes, there is a great tendency to rapid unchecked growth, owing to deficient local and general protective reactions. Young describes the types as follows: (a) Tuberculosis of the tracheobronchial glands; (b) acute miliary tuberculosis; (c) acute caseous tuberculosis; (d) chronic or fibrocaseous tuberculosis. A type corresponding to the fibroid tuberculosis of adults can hardly be said to exist. As regards associated lesions in other organs, intestinal ulceration, which is common, he attributes largely at any rate to the swallowing of sputum. He discusses the symptoms and physical signs of the four types and the diagnosis. The cutaneous reaction appears to be of value only in patients under 2 years of age. The ocular reaction he regards as promising, but urges an open mind pending more extended trial. Prophylactic treatment, particularly includes preservation from contact infection. Special care should be taken in regard to nurses and servants, and kissing by strangers should be particularly forbidden. In miliary and caseous cases treatment must be largely palliative and symptomatic. Removal from school, and residence away from a town, in a warm, equable and fairly dry climate—whether sea, inland or mountain is not of vital import, but the life of the child must be as rigidly mapped out as that of an adult in a sanatorium and on somewhat similar lines, while the stay must extend into months or even a year. If there is fever, the patient should be put to rest in bed until the temperature is steady. Breathing exercises are valuable. Diet should be liberal and rich in milk, cream and other fatty constituents; feeding should be regular and at short intervals. Children do not stand overfeeding well, and the appetite must be promoted by ample gentle exercises in the open air. Drugs are but little needed. Troublesome cough, paroxysmal in character, can sometimes be allayed by inhalation of creosote and spirit of chloroform—a few drops are sprinkled on lint. Tuberculin treatment may be used, but only in strictly localized cases and in very small doses, carefully watched by the opsonic index. The doses in the past, he says, have been much too large. The tuberculin method would be more practicable if a simpler measure of its effects than the opsonic index could be found.

13. **Surgical Tuberculosis.**—Low summarizes the treatment in surgical tuberculosis as follows: 1. In all cases open-air treatment should be organized, to meet the circumstances and requirements of the particular case. 2. The patient's powers of resistance to the disease should be periodically measured by suitable blood examination. 3. When the resistance is found to be low and there is no evidence of autoinoculation, use should be made of inoculations of Koch's new tuberculin, in doses that are accurately controlled, both as regards their amount and repetition, by examination of the blood. 4. For patients in whom there is evidence of excessive autoinoculation, absolute rest, with, in the case of a limb, absolute fixity of the diseased part, should be prescribed. 5. In all cases of circumscribed tuberculosis efforts should be directed to increasing the circulation through the infected area. 6. Operative procedure should be directed to the removal of the inert material—whether caseous glands, carious bone or collections of pus—and allowing the access to the infected area of healthy lymph. The necessary operations should be conducted with the most scrupulous asepsis.

14. **Actinomycosis (Streptotrichosis) of Lung and Liver.**—Wynn reports what he supposes to be the first case of this disease treated by bacterial vaccine therapy with a specific vaccine derived from the infecting organism. The result was successful. He discusses the bacteriology of the disease in regard to the various forms of streptothrix, and says that in these cases it will be important in the future to determine whether a vaccine prepared from one of the easily grown species or from a stock laboratory culture will have any effect on an infection caused by another species of streptothrix.

Medical Press and Circular, London.

February 26.

19 Treatment of Pannus Following Trachoma by Inoculating the Eye with Gonorrheal Pus. V. Goldzieher.
20 Tuberculosis of the Kidney. C. J. Symonds.
21 *Grafting of Fibula to Tibia. R. A. Stoney.
22 Record of a Year's Work in the Royal Samaritan Hospital for Women, Glasgow. J. N. Stark.

21. **Grafting of Fibula to Tibia.**—Stoney reports with skiagraphs a case in which, following the method suggested by Goldman of Freiburg (*Lancet*, Jan. 15, 1906), he grafted the upper part of the fibula to the head of the tibia in a patient in whom a considerable part of the shaft of the tibia had been lost by necrosis, leaving the limb useless. The result was good. He notes the similar case published in the *Annals of Surgery*, October, 1907, by J. S. Stone.

British Journal of Children's Diseases, London.

February.

23 *Congenital Syphilis in Infants. G. Carpenter.
24 Bone and Joint Lesions in Hereditary Syphilis. A. H. Tubby.
25 Bone Lesions of Congenital Syphilis. G. A. Sutherland.
26 *Congenital Syphilis. G. Pernet.

23. **Congenital Syphilis.**—In the first part of his paper Carpenter discusses chronic "snuffles," craniotabes, Parrot's nodes, syphilis as a ricket producer, syphilitic epiphysitis, syphilitic splenomegaly, and syphilitic enlargement of the liver. He calls attention to an internal snuffles, the discharge being localized to the posterior nares and the nasopharynx and finding its way into the stomach. Craniotabes is most common in the second and third months—the syphilitic age—and rickets after nine months—the rickety age. It is found in syphilitic fetuses and occurs in syphilitic infants. Carpenter has found it as an isolated lesion in cases in which he has known one or other parent to be syphilitic; also in cases in which he has attended for syphilis a brother or sister immediately preceding the patient; in association with marked anemia responding rapidly to mercurial treatment, and with snuffles. He always suspects syphilis whenever he finds craniotabes. It is a good working hypothesis. Parrot's nodes are found in the rickety, not the syphilitic, age, when the evidence of syphilis obtainable is of the weakest kind; nevertheless he considers them a syphilitic, not a rickety, disorder. He has hitherto looked on syphilis as a producer of rickets, but as he now thinks without any sound reason. It has not been unusual in his experience to find multiple epiphysitis as the sole manifestation of hereditary syphilis. A suspicious attitude of mind is indicated whenever enlargement of the spleen is found during the syphilitic age. Not only are splenic enlargements common during this period, but enlargements of the liver follow them fairly closely.

26. **Idem.**—Pernet objects to the term hereditary syphilis. Heredity means the infection of the human cell ovum by the human cell spermatozoon. He contends that syphilis transmitted to the child is always of maternal origin, and that it is not a direct paternal infection. The mother must be infected before the child can receive it from her. Colles' law is a real law.

Intercolonial Medical Journal of Australasia, Melbourne.

January.

27 *Appendicitis. G. A. Syme.
28 Impressions of Pediatric Work Abroad. H. D. Stephens.
29 Three Cases of Perforation of the Stomach and Intestine. R. A. Stirling.

30 Carbolic-Acid Gangrene. J. Murphy.
31 *Etiology of Summer Diarrhea. R. R. Stawell.
32 Symptomatology and Diagnosis of Summer Diarrhea in Children. P. B. Bennie.
33 *Prevention of Summer Diarrhea in Children. A. J. Wood.
34 Treatment of Summer Diarrhea in Children. F. H. Cole.

27. **Appendicitis.**—Syme details his conclusions from 123 acute cases of appendicitis occurring at the Melbourne Hospital, of which careful records were kept. There were 9 deaths. In spite of the present contrary trend, he favors immediate operation on diagnosis, both as a preventive of peritonitis and because in the hands of competent surgeons such a course would reduce the mortality to practically nothing. He has changed his views on this point slowly, deliberately, and solely as the result of experience. His records show a much less mortality (4.8) in early operation as against the later (8.4), a much shorter convalescence, and in every way the best results. The frequency of recurrence in cases in which he did not operate in previous attacks has also influenced him. When operation was advised in the second attack, the friends have naturally pointed out that recovery has taken place before without operation and have insisted on waiting, sometimes with disastrous results. He speaks highly of Murphy's rectal instillations, every patient so treated having recovered, though some of them were desperately ill. As for the question of waiting in the abscess stage until adhesions shall have formed, it may be the safest plan, but he does not carry it out, owing to the increased difficulty of finding and removing the appendix, the danger of toxemia, the danger of bursting and resultant peritonitis, and the fact that firm adhesions, while useful at the time in limiting spread, may become serious evils later. He deals with the stump by crushing the appendix at its base and inverting by a purse-string suture. The disastrous effect of concretions is referred to, as also the dangers of a kinked and adherent appendix.

31. **Summer Diarrhea.**—Stawell discusses summer diarrhea, which he regards as a fermental diarrhea with enteritis passing on to ileocolitis, not only caused by many organisms of the typhoid and paratyphoid type, but probably due partly to autoinfection, the etiologic factor being an acquired virulence of the *Bacillus coli communis* and kindred organisms. Food contamination of the most subtle description he regards as the prime factor. Sour milk is dangerous, he asserts, not because it is sour, but because the sourness is usually due to staleness or dirtiness. The conclusion is: Boil all food to sterilize it, and then protect it from contamination by flies.

33. **Idem.**—Wood says that mothers must be induced by all means to continue suckling their children through the summer months. Milk obtained some hours after milking should always be scalded before use. Putting milk on ice after it has been allowed to remain warm for several hours will cause slight attacks of diarrhea on each hot day, predisposing to a final severe onset. He condemns nipples, bottle brushes and sucking dummies, and calls attention to the pillow, which is often soiled throughout by the child's vomiting. A jackinette covering beneath the pillow slip will prevent the pillow becoming fouled. Cleanliness of the hands must be instilled into mother and nurse, and they should be taught to keep the napkins immersed in a covered vessel and away from the flies. Frequent cool bathing is recommended.

Clinical Journal, London.

March 4.

35 Carcinoma of the Breast; Its Early Recognition and Treatment. R. H. J. Swan.
36 Cases of Brachial Neuritis. W. Harris.
37 Rôle of the Pneumococcus in Ocular Infections. S. Stephenson.

Annales de Gynécologie et d'Obstétrique, Paris.

January, XXXV, No. 1, pp. 1-64.

38 *Retroplacental Hemorrhage and Medical Responsibility. Pinard.
39 Tuberculosis of the Cervix. (Tuberculose du col de l'utérus.) Delétrez.
40 Two Cases of Papillary Tumors of the Ovary. G. de Rouville and G. Stoltz.
41 *Generation of Gas by Intrauterine Injection of Hydrogen Dioxid. Funck-Brentano.

February, No. 2, pp. 65-128.

42 Appendicitis and Adnexitis. H. Hartmann.
43 *Ectopic Pregnancy at Term with Living Child. (Grossesse extrautérine à terme avec enfant vivant.) Potocki.
44 Experimental Study of Arterial Hypertension and Eclamptic Convulsions. J. L. Chirle.

38. **Retroplacental Hemorrhage and Medical Responsibility.**—A midwife was on trial for having caused the death of a healthy iv-para in labor, by failure to recognize retroplacental hemorrhage. She had ruptured the membranes, as slight hemorrhage had occurred, and all seemed to be going well, but the patient refused to obey instructions and she left the case. The family sent at once for a physician, but he was unable to come, and the second called delayed to write a letter to the authorities denouncing the midwife for deserting her patient. When he arrived he found the patient dead. He made an autopsy and reported to the authorities that death was due to serious hemorrhage from premature detachment of the placenta and that the midwife had overlooked a serious condition and had left a patient in grave danger; lack of proper care, he added, had greatly increased the chances of death. Pinard volunteered his testimony in favor of the midwife, stating that the local physician had misinterpreted the autopsy findings, as they indicated that the woman had succumbed to retroplacental hemorrhage. He presented evidence to show that this condition is exceedingly rare, and that on account of the absence of external bleeding the diagnosis is difficult. The midwife was condemned for malpractice and the minimum fine of $20 was imposed. Pinard considers this sentence unjust and declares that the testimony of a single medical expert is a danger for all members of the medical profession.

41. **Distension of Abdomen with Gas After Intrauterine Injection of Hydrogen Dioxid.**—Brentano reports a case of puerperal fever in which the uterus was curetted on the third day. On account of chills the next day an intrauterine injection was given of solution of hydrogen dioxid diluted one-half. Suddenly the patient complained of intense pain in the lower abdomen, followed by nausea, intense dyspnea and a syncopal condition while the abdomen became rapidly distended with gas. Perforation of the uterus was assumed and the organ was removed by abdominal section, but the patient rapidly succumbed. The uterus was found intact but filled with foam, and the ligaments were covered with bubbles resembling those made by blowing into soapy water through a tube. These bubbles extended into the epigastrium and across to the right iliac fossa. There was no sign of hemorrhage or effusion.

43. **Abdominal Pregnancy with Living Child.**—Potocki's patient was a primipara of 23 and the child, extracted by abdominal section, thrived normally until it was six months old, when it developed convulsions and paralysis. The aspect of the abdomen approaching term revealed the anomalous conditions within, even the position of the placenta with its souffle and thrill. The woman has since been delivered of a living child after a normal pregnancy.

Annales de l'Institut Pasteur, Paris.

January, XXII, No. 1, pp. 1-96.

45 Animal Trypanosomiasis in the Niger District. (La baléri.) G. Bouffard.
46 *General Conception of Antibodies and Their Effects. (Les anticorps des toxines solubles.). M. Nicolle and E. Pozerski
47 Origin of Precipitins. J. Cantacuzène.
48 *Arsenic in Syphilis. P. Salmon.
49 *Staining of the Tubercle Bacillus. (Coloration du bacille tuberculeux.) M. Herman.

46. **Research on Antibodies and Their Effects.**—Nicolle and Pozerski relate the details and conclusions of their long research on the artificial antibodies of toxins, the toxino-coagulins and toxino-lysins, immunity and acquired supersensitiveness in general and for the soluble toxins in particular.

48. **Arsenic in Syphilis.**—Salmon regards arsenic as "the third specific for syphilis," and relates extensive clinical experience with it. He prefers to commence with a large dose, repeated every second day for two or three weeks.

49. **Stain for Tubercle Bacilli.**—Herman insists that the stain he has been using for eighteen years gives better results than the Ziehl or Gram stain, and reveals tubercle bacilli in material in which otherwise only inoculation of animals will give positive findings. He uses a 1 per cent. solution of ammonium carbonate in distilled water, for the mordant, and a 3 per cent.

solution of crystal violet (methyl violet 6 B) in 95 per cent. ethyl alcohol for the stain. The two solutions are kept in separate bottles, well corked. One part of the stain is mixed with three parts of the mordant when ready to use. The tissues are fixed with a saturated solution of mercury bichlorid in distilled water, to which 5 per cent. of glacial acetic acid has been added. The frozen sections are placed in distilled water, taken up on a cover glass; the moisture is evaporated over a water-bath, and when the specimen becomes semitransparent it is ready for the stain. This is taken up in a dropper and seven drops are deposited on the specimen. It is then replaced on the top of the water-bath and one minute after the specimen begins to steam it is placed for a few seconds in 10 per cent. nitric acid and then transferred to 95 per cent. ethyl alcohol; afterward all the decolorizing fluid is rinsed off and it is dried and mounted in balsam.

Presse Médicale, Paris.

February 29, XVI, No. 18, pp. 137-144.

50 The Preceding Condition of Health in Respect to Effect of Industrial Accidents. (L'état antérieur chez les victimes des accidents du travail.) V. Balthazard.
51 Mode of Administration of Lactic Ferments. A. Martinet.

March 4, No. 19, pp. 145-152.

52 Electrolysis in Treatment of Angiomata, Especially in the Parotid Region. P. Redard.
53 *Bronchointestinal Autoinfection in the New-Born. P. Londe.

53. Bronchointestinal Autoinfection in Infants.—Londe expatiates on the remarkable way in which gastrointestinal and respiratory disturbances alternate or coincide in very young infants. He thinks that both are due to the same cause, some digestive derangement. Under the influence of inappropriate food the dyspepsia continues and the child may develop diarrhea or bronchitis. In some cases, abrupt arrest of the diarrhea by bismuth is followed by the development of bronchitis, of which there had been no signs before. In the subacute form the bronchitis may drag along for weeks, terminating in winter in bronchopneumonia and in summer in fatal enteritis. A cough in an infant should be regarded as a warning of possible trouble in the digestive tract, and any tendency to alternation in the respiratory and gastrointestinal symptoms should give the alarm of an impending sequence of ills unless averted by prompt treatment. Infants presenting this tendency to morbid alternation of bronchitic and gastrointestinal symptoms may not outgrow this tendency but remain subject to respiratory and intestinal affections even to adult life. Treatment should be directed against the nervous, toxic and infectious factors of the process. The nervous factor includes perversion of the secretions and this requires complete rest of the organs involved. Perversion of the secretions entails autointoxication. He warns in conclusion that it takes at least as long a time to recover from an affection of this kind as it took for the affection to reach its acme, and that this should not be forgotten in treating these infants. Five or six months may be necessary before they are able to tolerate the amount of milk which would be their normal ration in health. The danger of feeding too little is infinitely less to be feared than the danger of overfeeding. Even in primary bronchial affections the conditions in the gastrointestinal tract may aggravate the respiratory process.

Semaine Médicale, Paris.

March 4, XXVIII, No. 10, pp. 109-120:

54 *Retrodisplacement of the Uterus in Young Girls and in Young Wives. (Rétrodéviations de jeunes filles et de jeunes femmes.) R. de Bovis.

54. Retrodisplacement of the Uterus in Young Girls and Young Wives.—De Bovis remarks that retrodisplacement in young girls may lead to serious consequences and is frequently the cause or the sequence of painful menstruation. The local conditions should be examined, at least through the rectum, and, if the fundus of the uterus is found protruding into the rectum, the condition should be corrected. This is best done, he thinks, by dilatation with Hegar bougies which favor the development of the uterine musculature and strengthen it, thus rendering menstrual congestion less painful. If fixation is necessary it should be done by abdominal section, which also allows the condition of the adnexa to be examined. His experience has shown that the backward displaced uterus, straightened by a pregnancy, returns to its former retrodeviation after delivery. He reports a number of cases in which pre-existing retrodeviation had decidedly complicated a gonorrheal or other infectious affection and rendered its results exceptionally serious. In a number of cases straightening and fixation of the uterus with mild dilatation was followed by conception in married women who had been sterile for several years of married life, and in whom there had been gonorrheal infection. He ascribes incarceration of the pregnant uterus to retrodisplacement of the uterus long before marriage as the general rule. Retrodisplacement may also induce abortion; the combination of abortion and unusual length of the anterior lip of the cervix suggests pre-existing retrodisplacement. He makes it a rule to try to persuade mothers to allow the condition of the genitalia in their daughters to be examined in every case of obscure dysmenorrhea, to detect and permit correction of the dangerous backward displacement, which is much more frequent, he asserts, than is generally supposed.

Archiv für klinische Chirurgie, Berlin.

LXXXV, No. 2, pp. 343-612. Last indexed February 29, p. 734.

55 *Tests of Kidney Functioning. (Zur functionellen Nierendiagnostik.) E. Liek.
56 Hypoplasia of Contractile Substance in Abdominal Musculature. (Sogenannter Defect der Bauchmusculatur.) F. Pels-Leusden.
57 Treatment of Phimosis. J. Petrivalsky.
58 *Inguinal Method of Operating on Femoral Hernia. (Leistenmethode in der Operation der Schenkelbrüche.) N. Bardescu.
59 Injuries of the Skull in the Hand-to-hand Combats of the Middle Ages. (Schädelverletzungen durch mittelalterliche Nahkampfwaffen.) E. Bircher.
60 Diffuse Hyperostoses of the Skull and Face. (Ostitis deformans fibrosa—Virchow's Leontiasis ossea.) P. Bockenheimer.
61 Treatment of Racemose Arterial Angioma. P. Clairmont.
62 Ultimate Results in 65 Cases of Tuberculous Hip Joint Disease. (Coxitis tuberculosa.) C. Perret.

55. Tests of Kidney Functioning.—Liek gives the findings of the functional tests in 21 cases of a tuberculous affection of the kidneys, 22 of pyelitis, 10 of kidney stones, 6 of malignant kidney tumor and 88 of chronic nephritis. Nephrectomy was done in 41 cases, with the loss of one patient in whose case catheterization of the ureters had proved impossible. There was also one fatality from after-hemorrhage among 9 nephrotomies and 2 pyelotomies. The ultimate results of these operations are excellent for the cases in which nephrectomy was done on account of tuberculosis, stones, benign tumors or pyelitis, but the ultimate outcome was bad in malignant disease. Better results will be attained when the functional tests are applied in every case of hematuria, and thus reveal cancer in its incipiency. The findings with the phloridzin, indigo-carmin and cryoscopy tests are given for all this material, the results showing that these functional tests allow much more complete and exact diagnoses than were formerly possible, but too much must not be expected of them. The findings have only relative value, and they are most instructive when compared with each other.

58. Inguinal Access to Femoral Hernia.—Bardescu summarizes reports of 22 cases of femoral hernia in which he corrected the condition through the inguinal canal, and commends this technic for several reasons. No recurrence or after-disturbance was observed in any instance.

Beiträge zur klinischen Chirurgie, Tübingen.

January, LVI, No. 3, pp. 581-832.

63 *Treatment of Cicatricial Stenosis of Esophagus with the "Endless" Retrograde Sound. (Behandlung der narbigen Speiseröhrenverengerungen mittels der Sondierung ohne Ende.) V. Lieblein.
64 *Spinal Anesthesia in 500 Cases. (500 Lumbalanästhesien.) Lindenstein.
65 Backward Dislocation of the Ulna and Its Connection with the So-Called Traumatic Ossifying Myositis. (Luxatio cubiti posterior.) A. Machol.
66 Extrauterine Pregnancy. Lindenstein.
67 Statics of Neck of Femur. (Zur statik des Schenkelhalses.) W. Hagen.
68 *Results of Cryoscopy at Krönlein's Clinic. (Kryoskopische Resultate.) H. Fenner.
69 *Injuries of the Vagus and Its Consequences. (Verletzungen des Nervus vagus und ihre Folgen.) A. Reich.

63. Treatment of Cicatricial Stenosis of the Esophagus.—Lieblein relates the practical cure of two patients with cica-

tricial stenosis of the esophagus treated by von Hacker's technic of "endless sounding," using a tube with a conical tip. Neither of the patients has had to use the sound for more than six years, and can be regarded as cured. He has found 80 cases on record in the literature in which this procedure was applied through the stomach, but very few writers report the ultimate outcome. The opening into the stomach enables the patient to be well nourished from the start, and it is simpler and less serious than a direct operation on the esophagus. The bibliography on the subject of this "endless sounding" is appended.

64. **Spinal Anesthesia in 500 Cases.**—Lindenstein gives a tabulated oversight over the results, operations and by-effects noted in 500 cases in which spinal anesthesia was employed. The technic failed to induce anesthesia in 13 cases; collapse was observed in 7, vomiting during the operation in 34, and afterward in 54, with headache in 100, that is, in 20 per cent. of the 500 patients.

68. **Cryoscopy in Kidney Affections.**—Fenner reviews the findings with cryoscopy of the blood and urine in 47 cases of various kidney affections and in 1 of tuberculous peritonitis. It is the best method at our disposal, he thinks, for obtaining an insight into the conditions in regard to osmosis in the kidneys and their functional behavior. It must be considered in connection with the amount of urine and the preceding intake of fluids, and it does not supplant but merely supplements other methods of clinical investigation.

69. **Injuries of the Vagus and Their Consequences.**—This communication from von Bruns' clinic summarizes from the literature 11 cases of accidental injury, 44 of resection or severing of the vagus and 24 of irritation of this nerve, with 4 additional cases of this kind from von Bruns' clinic. Reich's experiments demonstrated the feasibility, the harmlessness and the good practical results possible with temporary exclusion of a given stretch of the nerve by prophylactic, non-irritating blocking of the nerve by local cocainization above and below the menaced or injured stretch. If symptoms of irritation have already become apparent, and persist notwithstanding removal of the cause, prompt relief can be obtained by severing the nerve. Vagotomy is in itself, Reich states, a harmless procedure which does not entail symptoms on the part of the heart, respiratory organs or digestive tract, but merely permanent paralysis of the vocal cords. When the vagus has been divided during an operation, it is wise to suture it if possible. On the other hand, traumatic irritation of the vagus is liable to induce very severe symptoms on the part of the heart and respiration, ranging from a slight drop in the blood pressure and slowing of the pulse rate to sudden actual arrest of the heart; there may also be convulsive coughing or dyspnea, diminished frequency and depth of inspirations or total arrest of respiration. These symptoms are the result of reflex irritation of the inhibiting centers for the heart and respiration in the medulla oblongata or of the centrifugal heart fibers, and are not due to reflex spasm of the glottis. When a part of the vagus is threatened, the prophylactic exclusion of this stretch by temporary, local cocainization of the nerve above and below the part involved will prove useful. If symptoms of irritation develop, vagotomy should be done without delay.

Deutsche medizinische Wochenschrift, Berlin.

February 27, XXXIV, No. 9, pp. 361-400.

70 *Treatment of Acute Gastric Ulcer. (Behandlung des akuten Magengeschwürs.) C. A. Ewald.
71 *Gastric Ulcer Simulating Cancer. (Magengeschwür und Magenkrebs.) W. Alexander-Katz.
72 Percussion of Right Margin of Heart. (Perkussion des rechten Herzrandes.) F. Moritz.
73 *Slanting of the Rima Glottidis and Deviation of Larynx and Trachea in Diagnosis of Pulmonary Tuberculosis. (Schrägstand der Stimmritze, etc., bei Lungentuberkulose.) G. Baer.
74 Hemolytic Action of Fibrin. S. Bergel.
75 *Stimulation of Diaphoresis in Insufficiency of the Kidneys. (Anregung der Diaphorese bei Niereninsuffizienz.) M. Georgopulos.
76 Method of Operating for Phimosis. A. Pollak.
77 Trigeminal Neuralgia as Consequence of Retention of Tooth. (Trigeminusneuralgie als Folge von Zahnretention.) Treymann.
78 The Operative Era in Obstetrics. (Alfred Hegar, "Die operative Aera der Geburtshilfe.") W. A. Freund.
79 Does Mercurial Treatment of Syphilis Influence Development of Metasyphilitic Nervous Affections? A. Spindler.

70. **Treatment of Acute Gastric Ulcer.**—Ewald gives the particulars of his technic of treating acute gastric ulcer. Tardy hemorrhage was observed in 4.8 per cent. of 166 cases, and in 3 per cent. of a previous series of 482 cases. He noticed that these hemorrhages occurred exclusively when food was taken by the mouth and vanished when nothing was given by the mouth and the patient was nourished only by the rectum. He gives a tablespoonful every two hours of a decoction of 10 sheets of gelatin in 200 gm. of water, to which are added a tablespoonful of citric acid, a teaspoonful of sugar and 10 drops of a solution of ferric chlorid, the whole warmed, in case of recent hemorrhage, until it is fluid. Nutrient enemata are mainly useful as supplying fluids to the organism, he says, the amount of nourishment that can be thus supplied is very small.

71. **Gastric Ulcer Simulating Cancer.**—In the case reported a x-para of 46 had had symptoms for eight years which rendered the diagnosis of cancer almost certain, the only evidence against it being the favorable course of the affection. She has gained considerably in weight recently and is at present free from disturbances although still anemic.

73. **Slanting of Rima Glottidis and Deviation of Larynx and Trachea with Pulmonary Tuberculosis.**—Baer found that the laryngoscope revealed in many cases that the trachea and larynx were dragged to one side by the shriveling processes in pulmonary tuberculosis. The rima glottidis was found slanting in 27 per cent. of 200 tuberculous patients examined.

75. **Diaphoresis in Kidney Disease.**—Georgopulos warns that diaphoresis, while removing part of the toxins circulating in the blood, leaves in a more concentrated form those that remain. For this reason he advocates supplying the system with water to take the place of that lost by diaphoresis—the amount is easily determined by weighing the patient before and after the sweating procedure. In case functional tests show that the kidneys are able to eliminate water freely, there need be no restriction of the intake, but if the kidneys are insufficient in this respect the amount of water to be allowed must be carefully determined for each individual case. In case of a tendency to dropsy the amount of water allowed should be smaller than the amount excreted through the skin. At the same time, the physician should be guided by the clinical symptoms. If they indicate that the tendency to dropsy predominates, then the intake of water can be safely restricted, but if uremic symptoms predominate, then it is best to disregard the dropsy and allow freer ingestion of water. The danger of uremia is more urgent in the cases without dropsy. These conclusions are based on extensive experimental research and clinical experience as well as the work of others in this line.

Fortschritte der Medizin, Leipsic.

January 10, XXVI, No. 1, pp. 1-32.

80 *Radiating Sympathetic Pain in Internal Affections. (Ueber den ausstrahlenden "sympathetischen" Schmerz bei inneren Krankheiten.) von Criegern.
81 Cure of Mycosis fungoides under Roentgen Treatment. H. Hübner.

January 20, No. 2, pp. 33-64.

82 *Five Cases of Progressive Paralysis in Children. F. Bachmann.

January 30, No. 3, pp. 65-96.

83 Education, etc., of Mentally Abnormal Children. (Soziale Fürsorge für geistig abnorme Kinder.) W. Fürstenheim.
84 Stones in Kidneys and Ureters. (Steinkrankheit der Nieren und Harnleiter.) Kümmell.

80. **Radiating Sympathetic Pain in Internal Affections.**—The radiating sympathetic pain is generally on the same side, and the regularity of the routes of radiation suggests some anatomic basis—possibly, von Criegern thinks, the sympathetic nerves accompanying the arteries. All the points to which the pain radiates are connected by arteries, and the vascular affections offer the most instructive types for study of this sympathetic radiation. Pain originating in the intestines is usually experienced in the center of the abdomen, although the actual cause may be far to one side. If the peritoneum is involved the pain is liable to radiate. Lead colic is an exception to this rule, the pain usually radiating to the connected vascular system. This point may be useful in differentiating lead colic. Working people sometimes complain of pain without any cause being found to explain it, and the diagnosis of "rheu-

matic pains" is male. Autopsy frequently reveals some unsuspected internal affection, gallstones, scars of gastric ulcers, arteriosclerosis, or occasionally urinary calculi, in progress or healed, which were evidently the cause of the trouble. The internal affection may have long subsided, but the sympathetic pain may persist indefinitely afterward, as trigeminal neuralgia from the carious tooth may continue after extraction of the tooth. If the internal affection is suspected, appropriate treatment of it may cure the sympathetic pain. This may also explain the benefit by derivation—such as venesection or hydrotherapy at distant parts of the vascular system in certain internal affections.

82. **Progressive Paralysis in Children.**—In the five cases encountered by Bachmann last year syphilis was the predominant factor, either inherited or acquired. Two of the mothers were tabetics. All the children had been normally intelligent before. The pupils were immovable and more or less dilated, differing from the contracted pupil of adults. The tendon reflexes were exaggerated or lost, but the bladder and rectum functions are still intact in all but one case. Lymphocytosis was noted in the cerebrospinal fluid in three cases, and the Nonne globulin reaction was positive in all. One of the children has shown an unmistakable remission in the symptoms during the last three and a half months, and is now able to read again and to remember things, taking a more active interest in his surroundings. Bachmann queries whether cases of such remissions of paralysis may not have been incorrectly differentiated in the past as "imbecility" or "idiocy," when in fact the child was suffering from progressive paralysis. In any event, he adds, physicians should examine for progressive paralysis when teachers complain of a sudden decline in the mental activity of a child.

Jahrbuch für Kinderheilkunde, Berlin.

February, LXVII, No. 2, pp. 131-260.

85 Medical Inspection of Schools in Scandinavian Countries. (System der Schulärzte.) A. Johannessen.
86 *The Line on the Nails in Infants. (Die physiologische Nagellinie des Säuglings.) B. Schick.
87 *Cerebrospinal Meningitis. W. E. Tschernow.
88 The School and Infectious Diseases. (Schule und Infektionskrankheiten.) R. Schultz.

86. **Significance of Changes in the Nails in Infants.**—Schick refers especially to the line running across the nail which is found constantly on the finger-nails of infants under three months. Similar lines may be observed on the nails of adults after typhoid fever, pneumonia, etc., or in children after measles or scarlet fever. The line has hitherto been accepted as a sign of inherited syphilis, and it is most marked and lasts longer, as a rule, under these circumstances, but it is also a constant finding in healthy children. Schick explains the line as the result of some disturbance in the nutrition of the nail matrix. The line does not become manifest until four or five weeks after the disturbance occurred. The change from intrauterine to extrauterine existence is sufficient to account for the nutritional disturbance in the nails of infants, and the age of the infant can be approximately computed from the distance between the line and the base of the nail. The average in 250 infants was 1 mm. for at least 28 days of life; 2 mm. for at least 7 and at most 12 weeks of life; 3 mm. for at least 8 weeks; 4 mm. for at least 8 weeks, and 5 mm. for at least 10 weeks. The nail line was missing in only 3 instances; the atrophy or premature birth of the infants explaining the absence of the line in these cases. The oldest infant with the line was 103 days old. The nail below the line was always normal in the healthy infants. In case the line is too indistinct for certainty, the nail can be brushed with ink, wiped off afterward; this shows up the irregularities in the nail very clearly.

87. **Cerebrospinal Meningitis.**—Tschernow reports his experiences with 24 cases of cerebrospinal meningitis in children at Kiev. He did not find that lumbar puncture gave relief or that medication by lumbar puncture was any improvement over by other routes, but the patients were not inconvenienced by it, and he asserts that it is actually indispensable for the differentiation of the affection. The greatest benefit in treatment was always derived from baths at 30 or 32 R. (99—104 F.) once or twice a day. Agitated patients, sometimes screaming with headache, quieted down and slept for an hour or so or longer after the baths; occasionally this effect of the baths persisted after the patients awoke. The bath proved most effectual in this respect in the earlier weeks of the disease. Subcutaneous injection of morphin also proved valuable, in addition to the use of ice, cold alkaline water and champagne in case of vomiting; inhalation of oxygen was also used. Chloral combined with the morphin tranquillized the patients more quickly than the bromids. Rest and careful nursing are important. One patient, a girl of 11, had two attacks, an exacerbation and frequent convulsions during the course of six months, but then recovered complete health, with strength and intelligence unimpaired. No case of direct contagion was observed.

Medizinische Klinik, Berlin.

March 1, IV, No. 9, pp. 283-320.

89 *Case of Motor Apraxia with Postmortem Findings. A. Westphal.
90 *Seven Cases of Sarcoma Developing After Trauma. K. Vogel.
91 Unilateral Reflex Immobility of the Pupil in Oculomotor Paralysis. G. Abelsdorff.
92 *Non-existence of Ptosis of the Stomach. (Gibt es eine Ptose des Magens?) F. M. Groedel.
93 *Mountain Air in Exophthalmic Goiter. (Höhenluft bei Morbus Basedowii.) B. Stiller.
94 Instrument for Obtaining Scrap of Stool for Examination. (Stuhlentnehmer.) T. J. Sato.
95 Instillation of Fibrolysin in the Conjunctival Sac. (Fibrolysineinträufelungen in den Bindehautsack.) Windmüller.
96 *Connection Between Disturbances in the Upper Air Passages and Affections of the Urogenital Apparatus. (Zusammenhang von Störungen in den oberen Luftwegen mit Krankheiten des Urogenitalapparates.) J. Sendziak.
97 *What Conclusions Are Justified by the Serum Diagnostic Measures in Syphilis? (Wassermannsche Reaktion.) F. Lesser.
98 Origin and Development of Mercurial Inunction Treatment of Syphilis. (Quecksilberschmierkur bei der Syphilis.) P. Richter.
99 Organization of Medical Inspectors of Schools in Germany. (Vereinigung der Schulärzte Deutschlands.) Samosch.

89. **Pathologic Anatomic Basis for Motor Apraxia.**—In the case described by Westphal there were no evidences of focal disease found at autopsy, but only considerable internal hydrocephalus. The ventricle was enlarged more on the left than on the right side. It seems, therefore, that internal hydrocephalus is able to induce the clinical picture of motor apraxia as well as of aphasia and other apparently focal affections.

90. **Sarcoma and Trauma.**—None of the seven patients whose cases are described by Vogel was insured against accidents, and consequently there was no extraneous inducement to connect the sarcoma with the preceding trauma. In three instances the testicle had been crushed; in another case, a woman of 40 had been hit in the breast by the corner of a piece of furniture while it was being moved. In another case a man of 27 was hit on the right shoulder by a falling box and sarcoma developed in the clavicle. The other patients were 65, 33, 35, 30 and 10 years old. No recurrence has been observed after radical removal of the sarcoma except in the case of mammary sarcoma which had been of exceptionally rapid malignant growth, the entire left mamma having been transformed into a hard tumor within four months of the accident, with enlarged glands in the axilla. Recurrence was soon observed and the patient died in three months after the extensive operation. The growth was a small-celled, round-celled sarcoma.

92. **Non-Existence of Ptosis of the Stomach.**—Groedel argues to prove that there is no such thing as ptosis of the stomach. The pyloric region is alone involved.

93. **Advantages of Mountain Air in Treatment of Exophthalmic Goiter.**—Stiller recalls that he preached the importance of mountain air in the treatment of this affection as long ago as 1888, but little notice was taken of his assertions at the time. Recently, however, Eichhorst, Erb and others have been reporting wonderful cures of exophthalmic goiter by this means. Stiller regards a sojourn in the mountains as an important factor in the treatment of functional nervous affections in general and especially in exophthalmic goiter. One of his patients improved extraordinarily during a few weeks each summer at an altitude of about 2,800 feet, but the symptoms of exophthalmic goiter returned during the winter at home in Budapest. One year the trip to the mountains was omitted and by the end of the following winter the patient seemed to

be in the terminal phase of cardiac deficiency; the heart was very much dilated, with anasarca and ascites, hydrothorax and hydropericardium. As a last resort she was taken to an altitude of about 3,400 feet in the Carpathian Mountains, and kept in the open air, without drugs. She returned in the autumn free from any tendency to dropsy or exophthalmic goiter symptoms, and lived for fifteen years until death from an intercurrent brain affection. Stiller says that he did not dare to publish this, his first experience, but he was soon able to repeat it. His second patient was a neurasthenic woman who developed acute exophthalmic goiter with great dilatation of the heart, anasarca and ascites. She spent the summer among the foothills of the mountains and returned in the fall with the syndrome much aggravated. Stiller then advised her to go to an altitude of 3,400 feet and spend the winter in the open air. She returned in the spring rejuvenated and all symptoms of the exophthalmic goiter had vanished. She has been permanently healthy during the twenty years since, but spends every summer at an altitude of from 3,400 to 4,400 feet. He has since had occasion to verify again and again the remarkable curative influence of mountain air on exophthalmic goiter, amounting to complete cures in a number of cases and notable improvement in nearly all. The sojourn in the mountains must be of several months' duration and it is generally necessary to return for several years in succession to render the cure permanent. It is his impression that better results may be anticipated in the cases with dropsy than in the well compensated, chronic cases. He believes that the heart affection in exophthalmic goiter has its roots in neuropathic soil and thus stands on another basis than *ab ovo* organic heart affections. He remarks in conclusion that it seems paradoxical to send a patient with failing compensation into rarefied mountain air, but the unquestionable success of the measure in exophthalmic goiter suggests whether our traditional views are correct, after all, and whether mountain air might not prove beneficial in other heart affections with failing compensation.

96. Disturbances in the Upper Air Passages Connected with Affections of the Urogenital Apparatus.—Sendziak points out the connection between many disturbances in the upper air passages and affections in the urinary or genital apparatus, and reviews this connection in detail, believing that it is important not only for diagnosis but also for treatment and prognosis. Epistaxis occurring in the course of interstitial nephritis is usually bilateral, and the flow of blood is not restricted to certain points but exudes over the entire mucosa. The nasal mucosa may also appear unusually pale, owing to the general anemia. These symptoms of bleeding and pallor may be still more marked in the mouth and throat. The base of the tongue may be the seat of varices and the palate and uvula may be red and swollen as in case of uricemic arthritis, or there may be edema of these parts. Tonsillitis is such a frequent forerunner or accompaniment of nephritis that Adler advises examination of the urine in every case of tonsillitis. There is also the specific uremic stomatitis and pharyngitis with the smell of urine, ammonia, in the breath. Membranous glossitis has also been observed in the course of kidney disease. Edema of the larynx or trachea has sometimes been observed as the first sign of acute nephritis, and it is liable to recur during its course.

97. What Has Been Learned from the Serum Diagnosis of Syphilis.—Lesser refers especially to Wassermann's technic for serum diagnosis and states that it teaches that the virus may persist active for years after infection even when there are no apparent manifestations of its presence. He also states that in the majority of syphilitics, specific syphilitic processes occur long after infection which mostly escape clinical diagnosis. Everything to date seems to demonstrate that the Wassermann diagnostic reaction indicates an existing syphilitic process in the organism. A negative response, however, does not indicate that the syphilis is necessarily cured. Energetic mercurial treatment attenuates or abolishes entirely the specific reaction. The positive response to the diagnostic serum test in tabes and progressive paralysis teaches that these affections should be regarded as a special phase of syphilis, a fourth stage, following on the ordinary third stage.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin.

February, XXVII, No. 2, pp. 187-296.

100 Venereal Diseases and Matrimony. (Geschlechtskrankheiten und Ehe.) W. Scholtz.
101 Membranous Dysmenorrhea. (Endometritis exfoliativa.) F. Hitschmann and L. Adler.
102 Clinical Contribution to the Crusade Against Uterine Cancer. (Kampf gegen den Gebärmutterkrebs.) E. Konrad.
103 Important Information to be Learned from Cystoscopic Examination in Respect to the Prognosis of Abdominal Operations for Cancer. (Was leistet die cystoskopische Untersuchung zur Prognosenstellung der abdominalen Krebsoperation?) F. Fromme.
104 How Long Should Women Be Kept in Bed After Childbirth? (Bettruhe im Wochenbett.) E. Martin.

Münchener medizinische Wochenschrift.

February 25, LV, No. 8, pp. 377-432.

105 Hypertrophy and Correlation of Organs. (Hypertrophie und Organkorrelation.) R. Rössle.
106 New Prospects for the Further Development of Roentgen Diagnostics. H. Rieder and C. Kästle.
107 Bacteriocydin in Perhydrase Milk. H. Much.
108 Hyperdactylia from Standpoint of Embryology. (Entwicklungsgeschichtliche Analyse der Hyperdaktylie.) H. Braus.
109 *Tuberculous Rheumatism, According to Poncet. P. Esau.
110 New Pavilion Exclusively for Prostitutes with Venereal Disease at the Clinic for Cutaneous Diseases, Frankfurt a. M. H. Hübner.
111 Zinc Glue Dressings. (Neuer Zinkleimverband.) O. Betz.
112 Adjustable Wall Support for Roentgen Tubes. (Wandarm für Röntgenrohren.) R. Pflugradt.
113 Comparative Tests of Tuberculin Reactions in Children. F. Reuschel. Commenced in No. 7.
114 Apparatus for Suction Treatment in the Middle Ages. (Saugbehandlung im Mittelalter.) J. Schuster.

109. Tuberculous Rheumatism.—Esau gives the particulars of a case which corresponds with Poncet's description of tuberculous rheumatism. The patient was a child who developed an affection in both knees and ankles, with acute and subacute exacerbations, accompanied by occasional high fever and considerable disturbance of the general health. The right hip joint and the cervical vertebræ also became affected. The affection gradually subsided, the involved joints healing with contracture in some, solid fibrous ankylosis in others and bony ankylosis in the hip joint, while one ankle and the spine healed with complete restitution of function. No infectious disease had preceded the joint trouble. The symptoms excluded acute articular rheumatism, as also the absolute inefficacy of remedies for the latter. Poncet explains the affection as a simple, purely inflammatory and sterile process, due to the action of tuberculosis toxins which destroy the cartilaginous covering of the joints similarly to the metabolic products of the gonococci. Symmetrical joints are usually affected and the outcome is better in the cases in which the synovial membrane is mainly involved. The prognosis is bad when the process is not so much in as around the joint, without effusion, which entails a tendency to ankylosis. The whole process is so peculiar that Bouveyron regards it as a special reaction to the infection in certain cases, analogous to the lupous reaction. The great benefit in the case reported from application of suction hyperemia justifies the application of this measure on a wide scale. Constriction hyperemia did not seem to benefit, but the application of large suction glasses evidently contributed to the favorable outcome for the joints to which it was applied. It can not accomplish anything in bony ankylosis and under any circumstances it always requires great patience and perseverance as well as intelligence, but the results amply justify its application in conjunction with orthopedic measures as needed.

Virchow's Archiv, Berlin.

February, CXCI, No. 2, pp. 171-410.

115 Bone and Connective Tissue Inclusions in Cancer. (Knochen- und Bindegewebseinschlüsse in Krebsperlen.) J. Erdheim.
116 Proliferation of Epithelium in Embryonal Human Esophagus. H. Schridde.
117 Reticulate Arrangement of Striated Muscle Fibers. (Netzförmige Anordnung der quergestreiften Muskelfasern.) R. Thoma.
118 *Arteriosclerosis After Injections of Adrenalin. N. Waterman.
119 Affections of Vessels from Effect of Poisons. (Studien über Gefässerkrankungen durch Gifte.) A. Bennecke.
120 Origin of Miliary Tubercle of the Lungs. (Intimatuberkel in den kleinen Lungenarterien.) H. Toyosumi.

118. Arteriosclerosis from Injection of Adrenalin.—Waterman's experimental research showed that the arteriosclerosis induced in animals after injection of adrenalin closely resembles ordinary arteriosclerosis in man. He is inclined to ascribe the effect to a direct toxic action on the walls of the vessels.

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February 20, XXI, No. 8, pp. 247-276.

121 *Behavior of Chromophilous Tissue under Influence of Anesthetics. (Verhalten des chromaffinen Gewebes bei der Narkose.) H. Schur and J. Wiesel.
122 Influence of Toxins on Breaking Up of Albumin by the Cell. (Einfluss der Toxine auf den Eiweissabbau der Zelle.) L. Hess and P. Saxl.
123 Bactericidal Properties of Pyocyanase. H. Raubitschek and V. Russ.
124 Action of Subcutaneous Injections of Pyocyanase. O. Kren.
125 Cutaneous Reaction to Tuberculin and to Tubercle Bacilli Filtrates in 145 Cases. (Allergie und Tuberkulinfiltratproben nach v. Pirquet-Detre.) P. Helm and K. John.
126 Contralateral Reflex in the Legs of Children. J. Brudzinski.

February 27, No. 9, pp. 277-308.

127 *Examination of Five Castrated Males. (Untersuchungen an Skopzen.) J. Tandler and S. Gross.
128 *Precipitation in Tuberculous Serum. E. Stoerk.
129 Applicability and Importance of the Complement Binding Reaction in the Diagnosis of Syphilis. R. Müller.
130 Serum Diagnosis of Syphilis. (Porges-Meier and Klausnersche Reaktion.) Nobl and Arzt.
131 Movable Heart and Neurasthenia. (Wanderherz und Neurasthenie.) M. Herz.

March 5, No. 10, pp. 309-344.

132 *Functioning of the Intestines in Elderly People. (Funktionsprüfung des Darmes bei alten Leuten.) H. Schlesinger and A. Neumann.
133 Productions of Antibodies After Experimental Injury of the Blood-forming Organs by Roentgen Radiation. (Antikörperbildung nach experimenteller Schädigung des hematopoetischen Systems durch Röntgenstrahlen.) E. Benjamin and E. Sluka.
134 Diagnosis of Chronic Pentosuria: Two Cases. B. Vas.
135 Sanitary Conditions in Persia. Feistmantel.
136 *Ocular Reaction to Tuberculin in Urology. (Konjunktivalreaktion in der Urologie.) F. Necker and R. Paschkis.
137 *Simplified Technic for Plugging Small Bone Cavities. (Mosetiga Knochenplombe.) B. Mayrhofer.

121. Behavior of Easily Stained Tissues Under Influence of Anesthetics.—The experimental research described apparently demonstrates that under the influence of a powerful anesthetic the chromophilous cells give up their secretion in excessive amounts to the blood and become exhausted thereby. They recover from this exhaustion in the course of a few hours. A striking hypoplasia of this chromophilous tissue seems to be a constant accompaniment of the status lymphaticus (Wiesel, Hedinger), and the exhaustion of this tissue under the influence of an anesthetic may help to explain the frequent deaths of such individuals during general anesthesia. Parkinson has also recently reported that he was unable to obtain the staining reaction in the medulla of the suprarenals in two fatal cases of postoperative shock.

127. Studies of Effect of Castration on Males.—Tandler and Gross relate that there is a religious sect in Russia, the Skopetzy, who make a practice of castrating the members. There is a colony of these people in Bucharest, and the authors had opportunity to make a physical examination of five. The results confirm their previous conclusions in regard to the effects of castration on man and animals, as they relate in detail. The Skopetzy in Roumania are thriving, the colony in Bucharest owning and driving most of the cabs.

128. Precipitation in Tuberculous Sera.—Stoerk states that it is possible to obtain a precipitate in the serum of tuberculous patients by adding to it the sediment obtained by evaporating the ether from an ethereal extract of a filtrate of tubercle bacilli suspended in physiologic salt solution. The sediment is mixed with 0.5 per cent. carbolized physiologic salt solution, and is then added to the tuberculous serum. A flocculent precipitate is then thrown down, while no precipitation is observed in non-tuberculous serum. He is convinced that some lipoid constituent of the tubercle bacilli induces the precipitation, just as lecithin induces precipitation in syphilitic sera with Porges' technic.

132. Defective Digestion of Meat in the Elderly.—Schlesinger and Neumann report the findings after the Schmidt-Strasburger test diet and estimation of the functioning of the digestive tract in thirty persons over 60 years old, all free from digestive disturbances. The teeth were imperfect in a few and some were hospital and others private patients. But the results of the tests harmonized to a remarkable extent in each instance. They showed that the connective tissue ingested was not utilized and was refound practically unmodified in the stools. Starch, on the other hand, was digested with remarkable thoroughness, in comparison with the digestion of starch in the young. Raw, rare and smoked meats passed comparatively unmodified through the body, but well done meat was digested. Even finely chopped raw meat escaped digestion.

136. Ocular Reaction to Tuberculin in Urologic Cases.—Necker and Paschkis report that inoculation of animals confirmed the positive findings from instillation of tuberculin into the eye in every case, while inoculation proved negative in every case of negative ocular reaction. They examined 42 patients with affections of the urogenital tract and had only one positive response among 23 supposedly non-tuberculous patients. They consequently commend the ocular test for dubious cases of urinary affections with hematuria or pyuria or rebellious cystitis, which so frequently masks a tuberculous process in the kidney. A positive response to the test imposes the necessity for inoculation of animals or an exploratory operation.

137. Simplified Technic for Mosetig Filling for Bone Cavities.—Mayrhofer comments on the rapidity with which the Mosetig filling cools and hardens before it can be fitted into the cavity, thus failing its aim, which is to fill every crevice of the cavity with a fluid mass which solidifies later. He uses a filling made according to the formula: Iodoform, 10 parts; sesame oil, 15 parts, and spermaceti, 30 parts. This is kept in an ordinary unguent jar. A small metal rod is heated in a flame and some of the hard mass in the jar is stirred and worked soft with the hot rod. The amount to be used is taken up on a heated spatula and pushed into the cavity with another heated spatula. By this means the filling is softened and kept soft and the cavity filled with the soft mass with no fear of its hardening during the manipulation. He has never applied this technic to large cavities, but has found it admirably adapted for plugging small cavities, always adhering strictly otherwise to Mosetig's directions. They were summarized in THE JOURNAL, Feb. 18, 1905, page 583.

Gazzetta degli Ospedali, Milan.

February 2, XXIX, No. 14, pp. 137-152.

138 *Fatal Angina Pectoris Without Lesions in the Coronaries. (Vasospasmo con esito letale.) G. Galli.
139 *"Intermittent Claudication" of the Spinal Cord. G. Poggio.
140 *Exploratory Puncture of the Bone Marrow. (Studi sulla patologia del midollo osseo umano vivente.) G. Ghedini.
141 Viscosity of the Blood in Relation to Changes in Blood Pressure. (Il coefficiente di viscosita sui valori di pressione.) C. Rubino.
142 Influence of Thiosinamin on Peritoneal Adhesions. U. Gervino.

February 9, No. 17, pp. 169-184.

143 Case of Pneumoconiosis. E. Maragliano.
144 Secondary Dermatoses. E. Calcaterra.
145 Action of Tubercle Bacilli Cultivated in Collodion Sacs in the Peritoneum of Dogs on the Defensive Properties of the Serum. C. P. Goggia.
146 Tertiary Syphilitic Fever. G. Piccinini.

February 16, No. 20, pp. 201-216.

147 *Surgery of the Brain. (Chirurgia cerebrale.) D. Maragliano.
148 *Kernig's Sign in Vertebral Affections. G. Salmoni.

February 23, No. 23, pp. 233-248.

149 Hypertrophic Sclerosis of the Liver of Uricemic Origin. G. Baccelli.
150 *Diagnosis of Brain Tumors. (Tumori cerebrali.) F. Senna.
151 Tubercle Bacilli in Urine in Pulmonary Tuberculosis. M. Biagi.
152 Pure Aortic Stenosis. G. Tondi.

138. Fatal Spasm of the Coronaries.—The patient in the case reported by Galli was a man of 50, robust but somewhat addicted to alcohol, and once a year taking a course of sanatorium treatment for this addiction. After his usual daily walk of an hour or so he returned to the sanatorium, where Roentgen examination of the heart showed normal outlines, although the temporal arteries were somewhat tortuous, and the pulse rate 80. In the evening he won a game of chess and drank a little mild beer, soon after which an attack of angina pectoris—the first he had ever experienced—proved rapidly fatal. The heart and coronaries were found normal.

139. Intermittent Claudication of the Spinal Cord.—Poggio reports two cases of disturbance in the functions of the spinal cord from paroxysmal deficient blood supply. The motor disturbances were alike in both cases and both patients were cured by antisyphilitic treatment. There were no vasomotor symptoms during the attacks, and there were no signs of

arteriosclerotic changes in the legs, but exaggeration of the reflexes during the attacks and imperious desires to urinate testified to involvement of the medulla. The recurring spastic paraplegia simulated myelitis, although the return of normal conditions during repose contradicted this assumption. One patient had also actual colics, the pains resembling those of tabes, differing only in their progressive frequency without tenderness on pressure on the large abdominal vessels, and without any connection with the food. Both sensory and motor disturbances subsided simultaneously under antisyphilitic treatment.

140. **Exploratory Puncture of the Bone Marrow.**—Ghedini expatiates on the importance of the information liable to be derived from study of the bone marrow, and describes the simple electric trephine and needle which he uses for exploratory puncture. The little operation is well tolerated by the patient and has not the slightest injurious by-effects. He is now studying by this means the behavior of the bone marrow in various infectious diseases as well as in actual blood affections.

147. **Brain Surgery.**—Maragliano's experience in the four cases described and with others indicates that complete restitution need not be anticipated in cases of injury to the cortex in which motor paralysis develops at once after the trauma. In one of his cases a sarcoma was successfully removed from the brain, but the patient succumbed to local recurrence not long afterward.

148. **Kernig's Sign in Spinal Affections.**—Salmoni reports five cases of vertebral tuberculosis and one of chronic vertebral rheumatism, in all of which Kernig's sign was present, as also in some cases of sciatica. In six other cases of the same affections the sign could not be elicited. He ascribes the sign to the muscles, regarding it as a phenomenon of muscular origin, connected with the elasticity of the muscles. The elasticity may be reduced from lesion of the muscular fibers themselves or it may become insufficient from the new conditions created by the rigidity of the spine. Consequently, he does not attribute any special diagnostic value to it. The muscles involved are those which normally are less elastic than most of the others.

150. **Diagnosis of Brain Tumors.**—At autopsy in Senna's first case a psammomatous fibroma was found in the right frontal lobe, below the middle part of the ascending frontal convolution. It had developed soon after a supposed trifling injury to the region, and caused no symptoms for a long time except extreme somnolence and progressive weakness. The possibility of a tumor had been rejected on account of the absence of headache, vertigo, vomiting and convulsions. Toward the last, left hemiplegia and slight deviation of the head to the right had been noticed, but no mental disturbances. The pituitary body was apparently normal. In another case a fibrous tumor was found in the sella turcica, probably originating in the pituitary body, with partial erosion of the bone and compression and displacement of the optic commissure. The tumor was adherent to the brain, which was slightly hyperemic. The symptoms in this case had been neuritis of the optic nerve, with atrophy of the papilla and mental decay, but no headache, vomiting, convulsions or localized paralysis, no acromegaly or other sign of involvement of the pituitary body, and no tendency to somnolence. In these two cases, as also in some others in his experience, the syndrome was far more characteristic of a slow encephalitic softening process than of an intracranial tumor. In another case reported in detail, softening of the brain from encephalitis and thrombosis in the corpora quadrigemina and optic thalamus induced a series of symptoms suggesting a brain tumor in every respect, even including neuropapillitis. The duration of the affection aids in differentiation; the encephalitic process proved fatal in his two cases in about two months. In another case the intense headache, inability to stand, continuous vertigo and tendency to fall backward, with other symptoms, suggested a cerebellar tumor. The patient was a woman of 45, apparently free from arteriosclerosis or apoplexy and from neuropapillitis, but with slight atrophy of the papilla and signs of gastric catarrh. Under tentative treatment addressed to the gastrointestinal tract, the symptoms promptly subsided and the patient has been in good health since.

Policlinico, Rome.

February, XV, Surgical Section, No. 2, pp. 49-96.

153 False Diverticula of the Appendix. R. Malatesta.
154 Stovain Spinal Anesthesia. (Rachistovainizzazione.) G. Vincenzo. Commenced in No. 1.
155 *Iodin in Treatment of Tuberculous Epididymo-Orchitis. G. Finocchiaro.
156 Mechanism of Action of Stasis Hyperemia in Infections. G. Fichera. Commenced in No. 1.

February 23, Practical Section, No. 8, pp. 229-260.

157 Case of Intestinal Intussusception. A. Ando.
158 Malta or Mediterranean Fever.
159 "Anguish Neurosis" or Freud's Neurosis. (Nevrosi d'angoscia.) S. S. Lavagna.

March 1, No. 9, pp. 261-292.

160 *Tuberculous Osteomyelitis of the Condyles of the Femur. F. Durante.
161 Prophylaxis of Laceration of the Perineum. G. Massimi.
162 The Scapulo-humeral Reflex. (Riflesso scapolo-omerale.) B. Cicaterri.

155. **Iodin in Tuberculous Epididymo-orchitis.**—Finocchiaro reviews the history of treatment of tuberculosis of the testicle, and reports excellent results from the local injection of iodin as practiced by Durante. The inflamed epididymis rapidly subsides in size and becomes transformed into indolent fibroid tissue, thus healing the tuberculous process as well as if it had been excised, while there is none of the demoralizing effect on the patient of operative measures. An average of about 30 local parenchymatous injections are required, commencing with a few drops of a 1 per cent. solution of iodin in distilled water, with potassium iodid for a solvent. The number of drops is gradually increased, the aim being to spread the fluid evenly through the tissues while avoiding the induction of hemorrhage into the tissues. This local treatment is supplemented by general measures against the tuberculosis and internal administration of iodin to keep the body under the influence of the drug. Twelve patients thus treated have been restored to health and good spirits and have gained in weight; three typical cases are reported in detail. This method of treatment was applied to a number of rabbits previously infected in the testes with tubercle bacilli. The experimental findings as well as the clinical experiences, it is said, all speak in favor of the benefits of this method of treating tubercular epididymo-orchitis as the healing resembles that of the natural healing of tuberculous processes. The prompt change in the character, the patient losing his irritability and becoming cheerful, is a presumptive sign of restoration of normal conditions in the internal secretion. In two cases the tuberculous affection of both testicles not only healed, but the normal function was restored, a number of normal spermatozoa being found in the seminal fluid. Durante has long been using iodin in treatment of surgical tuberculous processes in the bones, etc., obtaining results, it is claimed, superior to those of radical operations. The iodin stimulates the tissues to increased resistance and phagocytosis, while it attenuates the virulence of the bacilli. Applied to tuberculous epididymo-orchitis, the article concludes: "The iodin treatment restores to society men, not eunuchs."

160. **Osteomyelitis of the Condyles of the Femur.**—Durante operates in tuberculous osteomyelitis of the condyles of the femur—after failure of other measures—by turning back a McKenzie flap, the patient being under the influence of spinal anesthesia and the blood expelled from the limb with an Esmarch bandage. He then cuts away the condyles to form an obtuse angle, the point upward, and cuts the head of the tibia to fit into this obtuse angle. The cartilaginous part of the patella is resected and the spine of the tibia is sawed away to leave a small flat surface. The cavities left by excision of any small tuberculous foci soon fill up with a growth of bone. Absolute hemostasis is necessary for perfect healing of the cut surfaces of the bone. When the patella is replaced on the flat surface prepared for it on the spine of the tibia, and the flap of soft parts is replaced, a nail is driven through the soft parts and patella into the tibia, not removed until consolidation is complete. The limb is immobilized for a time after the operation in a Macewen splint. A typical case is related in detail, with an illustration of the technic.